Proceedings of the
Third Digital Naturalism Conference

Batticaloa, Sri Lanka 2022

COW BEACH

Basic swimming lessons were one of the most impactful workshops at DINACON. 30 years of military occupation made it illegal to go into the surrounding seas and prevented generations of locals from exploring the ocean biomes surrounding them.

The **Third Digital Naturalism Conference** ran for all 31 days of July 2022 in the town of Batticaloa, Sri Lanka with Dreamspace Academy. It brought together interaction designers, artists, field biologists, and anyone interesting in finding new ways to explore the natural world. It provided all services at or below cost to participants (including scholarships) and was made possible through funding from the Gathering for Open Science Hardware (openhardware.science/), The New York Foundation for the Arts, and independent donations from participants.

The **Second Digital Naturalism Conference** ran for all 31 days of August 2019 in the town of Gamboa, Panama. Chaired by Andrew Quitmeyer and Lee Wilkins, it functioned to inaugurate Digital Naturalism Labs, and it provided all conference services at or below costs to participants.

The **First Digital Naturalism Conference** ran for 6 weeks in the year 2561 (2018) on Koh Lon, Thailand. It was free for participants to join and independently funded by Andrew Quitmeyer, Tasneem Khan, and additional crowdfunding.

Most imagery created and collected by the Dinacon 3 Documentary crew, Dinacon Chairs, and the participants themselves.

Book compiled and edited by Andrew Quitmeyer, Sid Drmay, and Kit Quitmeyer.

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It is only by working together that we can collectively form new ideas and methods for exploring and understanding our world.

2022 - The Digital Naturalism Conference

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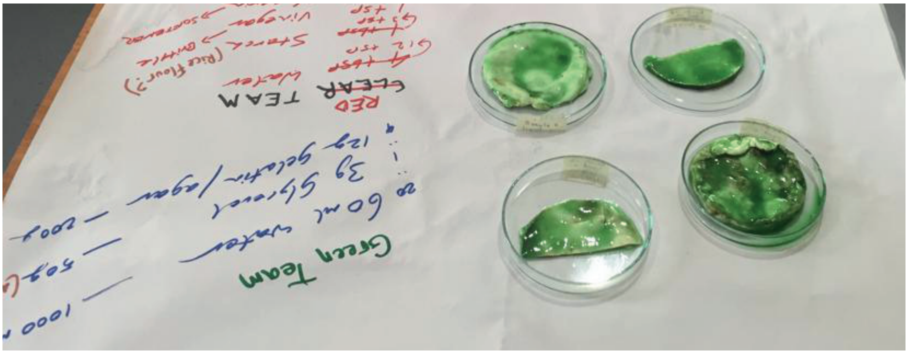

Green Team
60 ml water
3g Glycerol
12g gelatin/agar
RED TEAM

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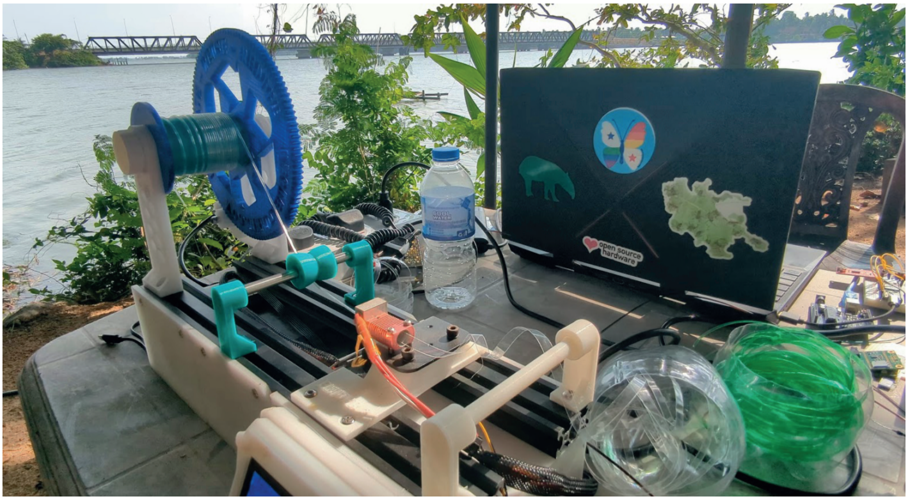

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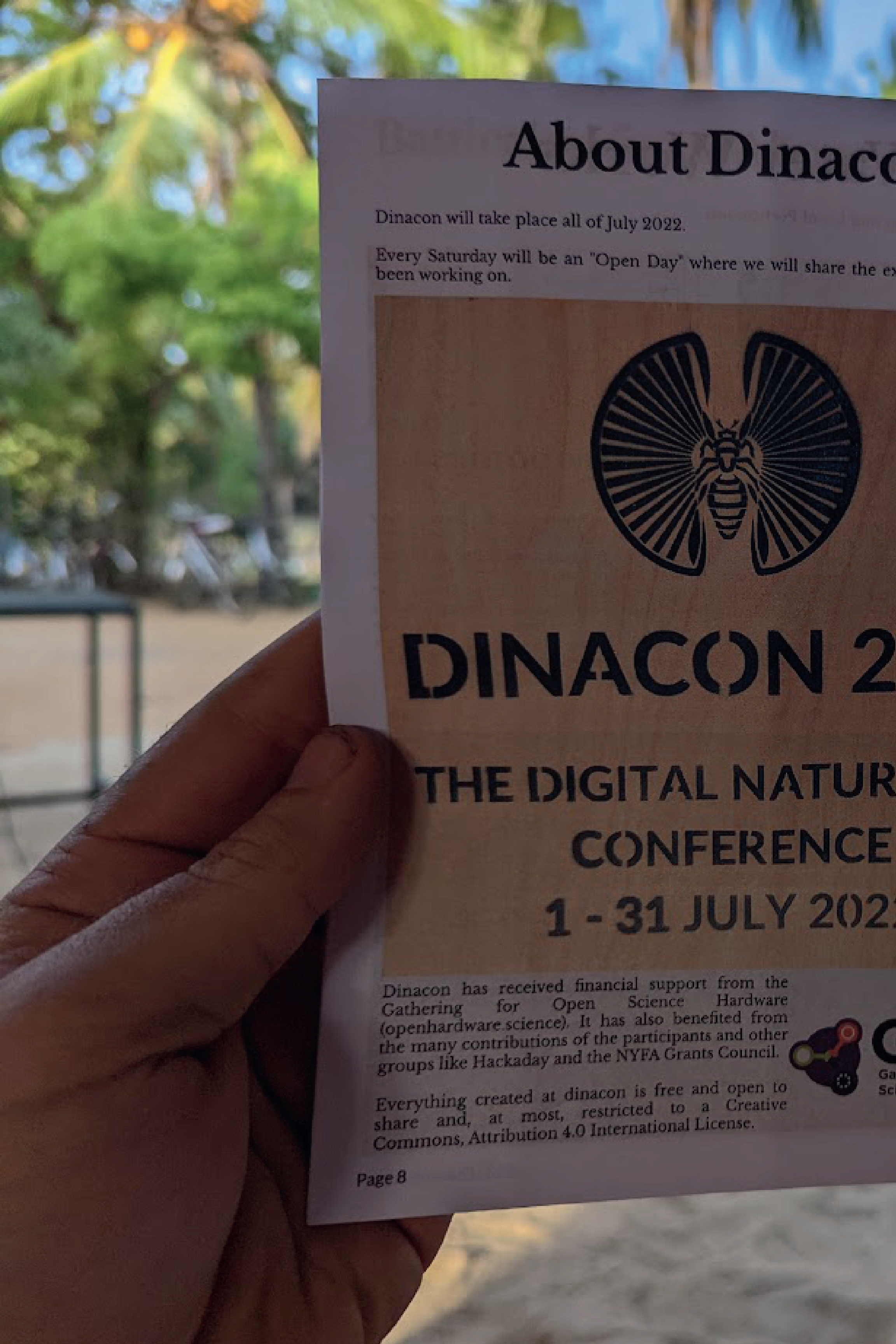
DINACON 2022
THE DIGITAL NATURALISM CONFERENCE
1 - 31 JULY 2022
MAKING HOSTED BY
DREAMSPACE ACADEMY
BATTICALOA, SRI LANKA



About Dinaco

Dinacon will take place all of July 2022.

Every Saturday will be an "Open Day" where we will share the ex
been working on.

DINACON 2
THE DIGITAL NATUR
CONFERENCE
1 - 31 JULY 202

Dinacon has received financial support from the Gathering for Open Science Hardware (openhardware.science). It has also benefited from the many contributions of the participants and other groups like Hackaday and the NYFA Grants Council.

Everything created at dinacon is free and open to share and, at most, restricted to a Creative Commons, Attribution 4.0 International License.

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ALISM
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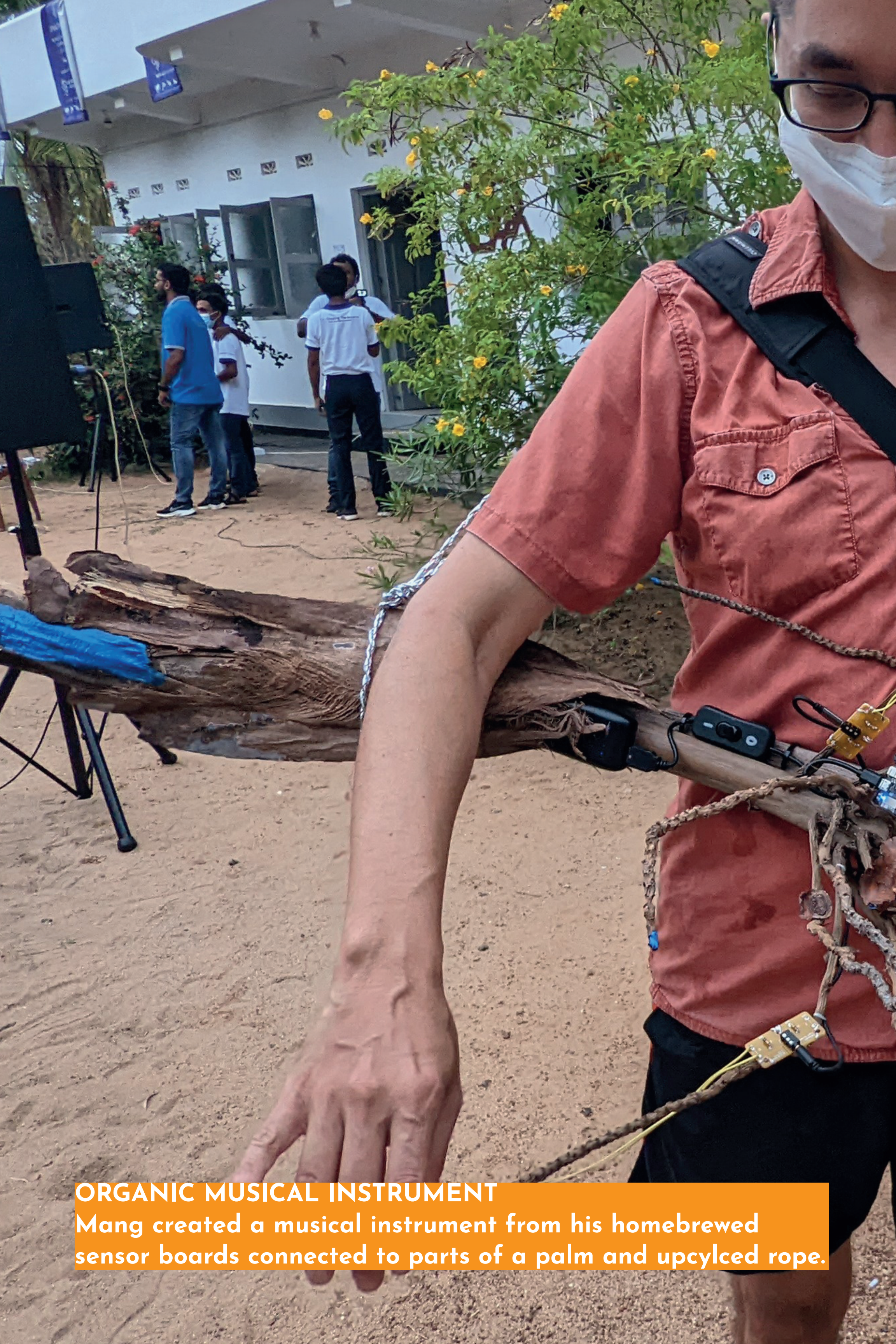
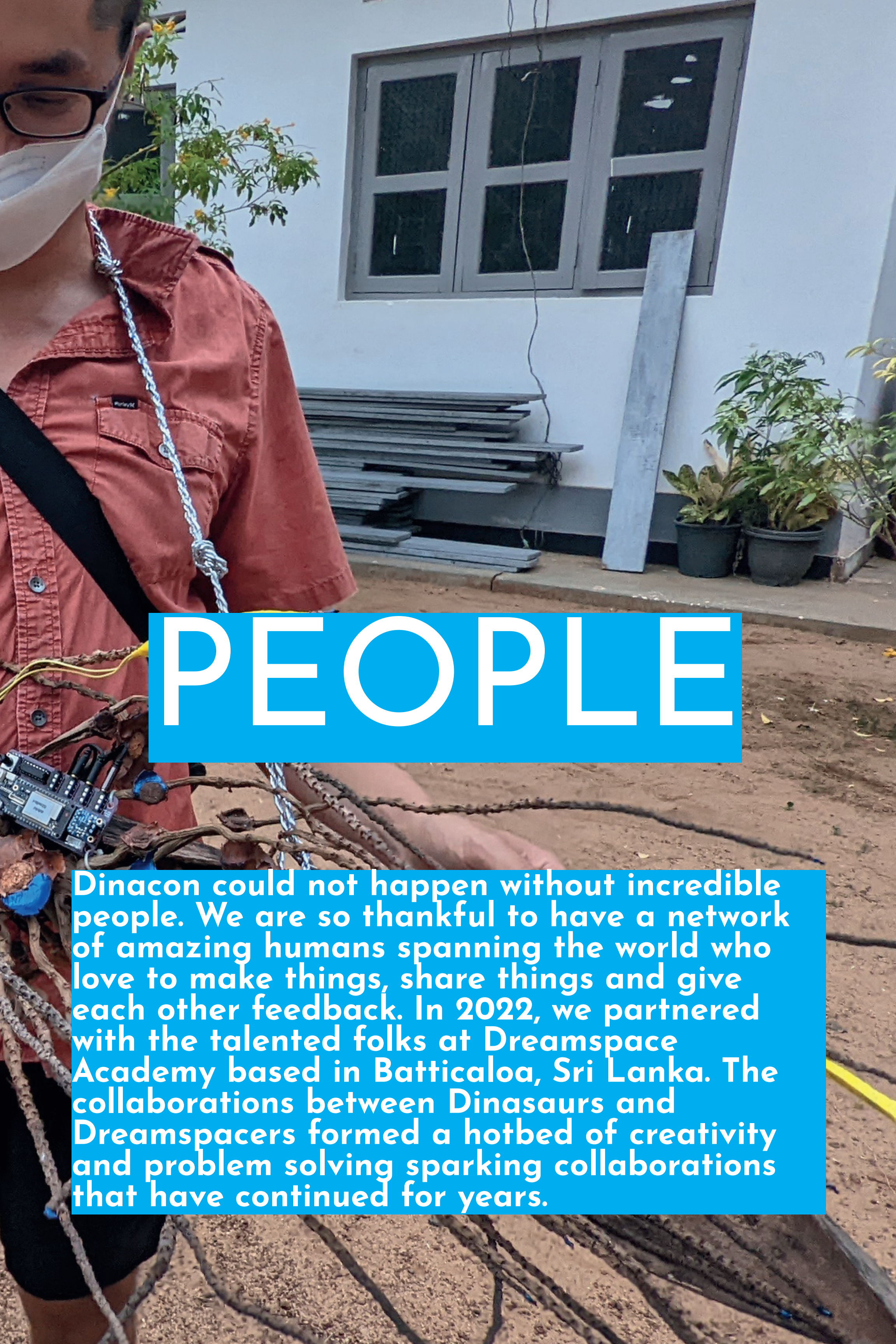
2022.Dinacon.org
DINACON 2022



ORGANIC MUSICAL INSTRUMENT
Mang created a musical instrument from his homebrewed sensor boards connected to parts of a palm and upcylced rope.



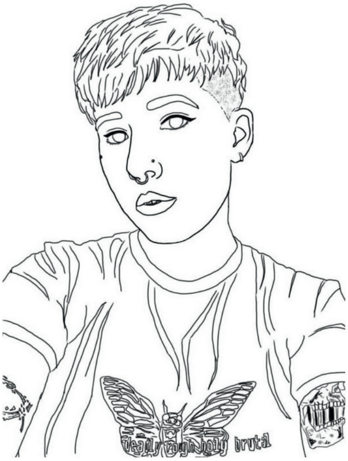
PEOPLE

Dinacon could not happen without incredible people. We are so thankful to have a network of amazing humans spanning the world who love to make things, share things and give each other feedback. In 2022, we partnered with the talented folks at Dreamspace Academy based in Batticaloa, Sri Lanka. The collaborations between Dinasaurs and Dreamspacers formed a hotbed of creativity and problem solving sparking collaborations that have continued for years.

CHAIRS

Sid Drmay, Andy Quitmeyer, Lee Wilkins

Dinacon 2022 was chaired by Sid Drmay, Andy Quitmeyer, Lee Wilkins. Planning started early 2021 and kept us busy up until the last moment.


deadly rough holy brutal

SID DRMAY is a nonbinary queer multidisciplinary artist based in Hamilton, ON. They use textile art to explore growing up online, nosebleeds, queerness and transness and all the weirdness that comes with that. They love weaving, embroidery, screenprinting, their two cats, and sour gummy candies.

DR. ANDY QUITMEYER designs new ways to interact with the natural world. He spends most of his time volunteering with smaller organizations, and recently founded the field-station makerspace, Digital Naturalism Laboratories. In the rainforest of Gamboa, Panama, Dinalab blends biological fieldwork and technological crafting with a community of local and international scientists, artists, engineers, and animal rehabilitators. He currently also advises students as an affiliate professor at the University of Washington.

LEE WILKINS is a cyborg based in Toronto, Canada. They are currently a PhD student at the University of Toronto, chair at Site 3 coLaboratory, and co-executive director of Little Dada.

I’m interested in exploring the relationship between the senses at nature through cybernetics. I want to explore magnetic fields and translating them into physical experiences. I plan to create at least 2 devices that translate these fields into sensory experiences, and contrast this data with other environments.

SWIMMING AS A TOOL FOR EXPLORATION

Surrounded by water, many people in Batticaloa were not able to learn to swim due to decades of civil war. Dinasaurs and Dreamspace's Ocean Lab hosted workshops to teach people!

REFLECTION

Sid Drmay - Dinacon Co-Chair

Up until the moment I got on my first plane, I was not entirely convinced that getting to Sri Lanka was going to happen. It seemed highly unlikely that I could

- make it all the way there,
- then run a month-long conference with Andy
- dodge COVID challenges as best we can
- and wrangle attendees coming and going continuously.

But somehow that did happen and we did do that.

Dinacon 3: Sri Lanka Boogaloo required a huge effort of planning across our two teams, Dinacon represented by Lee Wilkins, Andy and I; Dreamspace represented by Aravinth and Kisoth. We had meetings on vastly different timezones, Andy, Kit, and Craig, visited to scout out the area we'd be in and somehow over the course of many emails it all came together. But this is all the boring stuff with emails and meetings and bookings and forms, sooo many forms. The best part was being in Sri Lanka.

Actually being in Sri Lanka was incredible.

The Dreamspace crew was packed full of incredibly cool and talented people, inside a gorgeous building with lots of space to spread out and work. It was a beautiful place to be in, walking or biking along the dusty roads of Batticaloa between the Riviera and the Dream Hive was always a joy.

I loved hearing the calls to prayer echo in the streets,

COVID SAFE WORKSHOPS
We had major covid outbreaks, but our outdoor makerspaces helped the hacking continue!

spying on geckos and street cats wandering in shadowy nooks covered by fruit trees. Nearly every home had a colourful gate, I took many pictures of the various types taking note of different patterns in the ironwork or carvings in the wood or cut outs in the cement.

I spent a lot of time at the little bakery trying different breads and buying doughnuts from the tiny stand that opened in the afternoon. I cannot think about the cashew curry for too long or I get sad. Not to mention the ginger milk tea and curd, god I miss it. We were spoiled by the way fruit can only taste in a tropical region.

One of the things that makes Dinacon special is being within a community, getting to walk around and explore and talk to people. Dinasaurs are very good at that. Batticaloa was a perfect kind of place for this, especially as we all began needing supplies for various projects.

Soon we had people making friends a local machinist with a lathe, finding local coffee beans to make a mini cafe, going to the market to stock up up fresh produce to make incredible meals to share, finding people who had access to different tech we needed, or a shop with a blender, masons to buy bricks to build an oven, and collaborating with dreamspacers are all kinds of projects.

Being able to see people come together to figure out ways to teach one another and explore ideas is really just so freaking COOL! I'm so happy we all got to be there, to make things and teach each other. I love that we got to celebrate birthdays, completed projects, new ideas and a corrupt government falling.

There were days that felt difficult, tiring, and draining but usually they couldn't help but end well with a swim in the Indian Ocean or a conversation around the dinner table or a lunch time jam session. It was such a gift to be able to be there with people from so many different places across the globe working together to make ideas come to life.

I'm so thankful for the experience and I hope that this book can capture just a small amount of what it was.

THE ONLY WAY OUT IS THROUGH

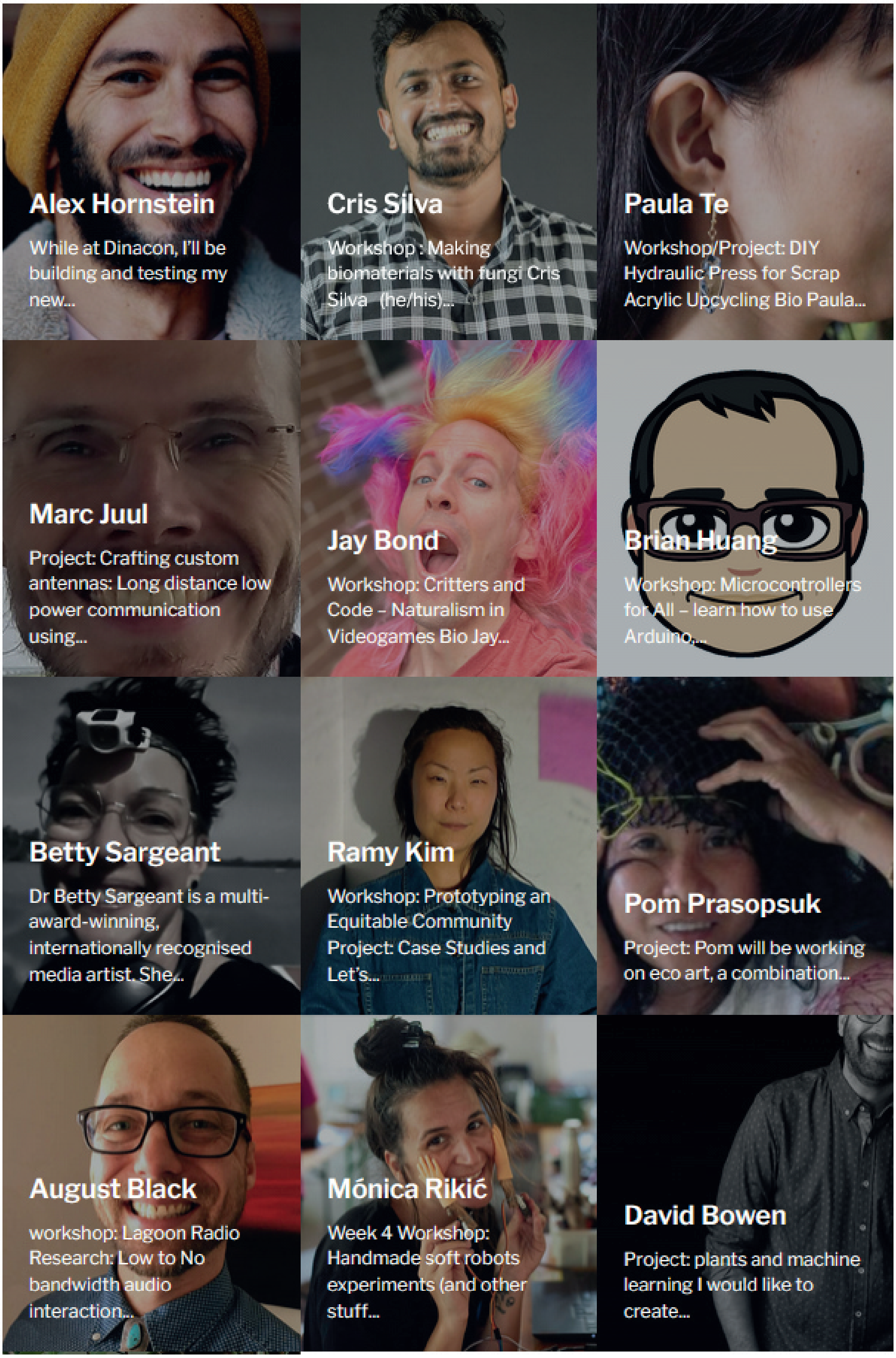
Sid Drmay,
Dinacon Chair

DINACON
2022

NODE LEADERS

Node Leaders are experts in many fields hosting public projects at Dinacon. They are like standard participants except they have also volunteered their time at Dinacon to share the skills they have developed working in art, science, and engineering projects.

Though we have no official structure to what will happen at a given dinacon, the Node Leaders function as seeds that grow into a scaffold unique to the community and environment upon which the rest of the conference blossoms.



Alex Hornstein

While at Dinacon, I'll be building and testing my new...

Cris Silva

Workshop : Making biomaterials with fungi Cris Silva (he/his)...

Paula Te

Workshop/Project: DIY Hydraulic Press for Scrap Acrylic Upcycling Bio Paula...

Marc Juul

Project: Crafting custom antennas: Long distance low power communication using...

Jay Bond

Workshop: Critters and Code – Naturalism in Videogames Bio Jay...

Brian Huang

Workshop: Microcontrollers for All – learn how to use Arduino,...

Betty Sargeant

Dr Betty Sargeant is a multi-award-winning, internationally recognised media artist. She...

Ramy Kim

Workshop: Prototyping an Equitable Community Project: Case Studies and Let's...

Pom Prasopsuk

Project: Pom will be working on eco art, a combination...

August Black

workshop: Lagoon Radio Research: Low to No bandwidth audio interaction...

Mónica Rikić

Week 4 Workshop: Handmade soft robots experiments (and other stuff...

David Bowen

Project: plants and machine learning I would like to create...

(Not pictured, but an integral node leader, Harold Tay)

DREAMSPACE

In Dinacon 2022, we partnered with the amazing folks at Dreamspace Academy.

Dreamspace started as a war reconciliation centre that evolved into a fantastic endeavour for helping the local society and environment.

In their words:

"DreamSpace Academy is a non-profit social enterprise tackling local socio-economic and environmental challenges through challenge-based learning, grassroots innovation and impact venture building. Three decades of civil war in Sri Lanka caused a massive impact on socio-economy and environmental ecosystems International aid provided significant support, but imported solutions couldn't solve fundamental local problems sustainably. Our mission is to achieve sustainable development goals in Sri Lanka by empowering underserved communities, protecting environmental ecosystems, facilitating peace-building and fostering sustainable startups"

Dreamspace is located on a peninsula bordering a lagoon and ocean in Batticaloa, Sri Lanka. Batticaloa is located on the eastern side of Sri Lanka and home to many incredible creatures (including Blue Whales and the mysterious Singing Fish!).

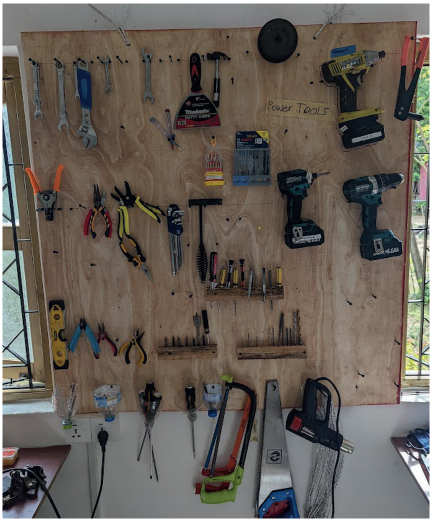
Kishoth Navaretnarajah and Aravinth Panch co-founded Dreamspace and led the work connecting their community to ours.

The Dreamspace academy is comprised of many different teams that we helped employ to run logistics, documentation, and scientific endeavors throughout the conference.

Perhaps the biggest project of the entire conference was kickstarting the infrastructure for Dreamspace's newest facility, the Hive.

The Dinasaurs imported equipment and helped design new laboratory spaces to rapidly turn this empty building into a hotbed of creativity. Meta-projects like this included:

- Electronics Spaces
- Biohacking Spaces
- Upcycling Infrastructure
- Video Conferencing
- Solar Panels
- Shelving
- and more!



REFLECTION

Dreamspace and Dinacon - Kishoth Navaretnarajah

Dinacon - The Digital Naturalism Conference, hosted by DreamSpace Academy in Batticaloa, Sri Lanka, was a remarkable event that took place during a challenging period of economic and political crisis in our country.

It was a time when many felt disheartened and demotivated, but Dinacon emerged as a beacon of inspiration and hope.

Dinacon, in its essence, is a motivator. It ignites motivation on multiple fronts. It's different from anything I've encountered before. You see, you can create a robot anywhere, let's say at MIT, with all the resources at your disposal. But can you create a robot using coconuts? This is where Dinacon stands out—it encourages us to think differently and make the seemingly impossible a reality.

That's the beauty of Dinacon. It challenges conventions and pushes boundaries. Just like when Sumu introduced techno music, a genre not commonly associated with our local culture. It was a revelation, and it inspired people who might not have had an interest in music to give it a chance. That kind of motivation is priceless.

Dinacon is a transformative program that generates motivation, and not just any motivation, but motivation for the future. It aligns perfectly with the core values of DreamSpace Academy. We emphasize the responsible use of materials like plastic. Dinacon exemplifies this by showcasing how everyday items

DREAMSPACE
ACADEMY
DINACON 2022

like earrings, pens, key tags, and plates can be created from recycled bottles. Simple yet powerful examples of sustainability.

This interaction with nature and the innovative reuse of materials not only creates energy but also instills hope for the future. It's about taking action to protect our environment while fostering creativity. Dinacon is a catalyst for motivation, and that motivation fuels our drive to create even more motivation within DreamSpace and across Sri Lanka.

In my eyes, Dinacon is a force that generates motivation for the future. It is a force that encourages us to dream big, think differently, and act responsibly. It reminds us that even in challenging times, we can find inspiration and the strength to build a better tomorrow. Dinacon is, without a doubt, a source of boundless motivation.

At a time when there was a severe shortage of fuel, food, and medicines, and we endured long hours of power cuts, we were confronted with the monumental task of organizing and hosting this event. Yet, we pressed on, utilizing the resources available to us, demonstrating an unwavering commitment to making it happen.

DreamSpace Academy, as the host, faced these adversities head-on. We navigated through the turbulent circumstances, making every effort to ensure that Dinacon would be a resounding success. It was a testament to our resilience and adaptability that we could rise above the challenges and create an environment where creativity and collaboration thrived.

Our experience with Dinacon during these trying times has instilled in us the highest level of confidence. We have come to believe that we are capable of hosting any kind of conference, regardless of the scale, for any number of people, anywhere in Sri Lanka. The obstacles we overcame during Dinacon have fortified our resolve and expanded our horizons. We now stand ready to take on future challenges with the knowledge that determination, resourcefulness, and a passionate community can overcome even the most formidable obstacles.

In retrospect, Dinacon was not just an event; it was a testament to the indomitable spirit of DreamSpace Academy and our collective belief in the power of innovation, creativity, and environmental stewardship. It showcased our ability to thrive in adversity, to create under constraints, and to inspire others to do the same. Dinacon will forever be a symbol of what is possible when driven individuals come together with a shared vision and unwavering determination.

Thank you to everyone who made Dinacon possible, and here's to a future filled with creativity, sustainability, and the unwavering motivation to make a positive difference in the world.

Kishoth Navaretnarajah,
Co-founder and Director of DreamSpace Academy

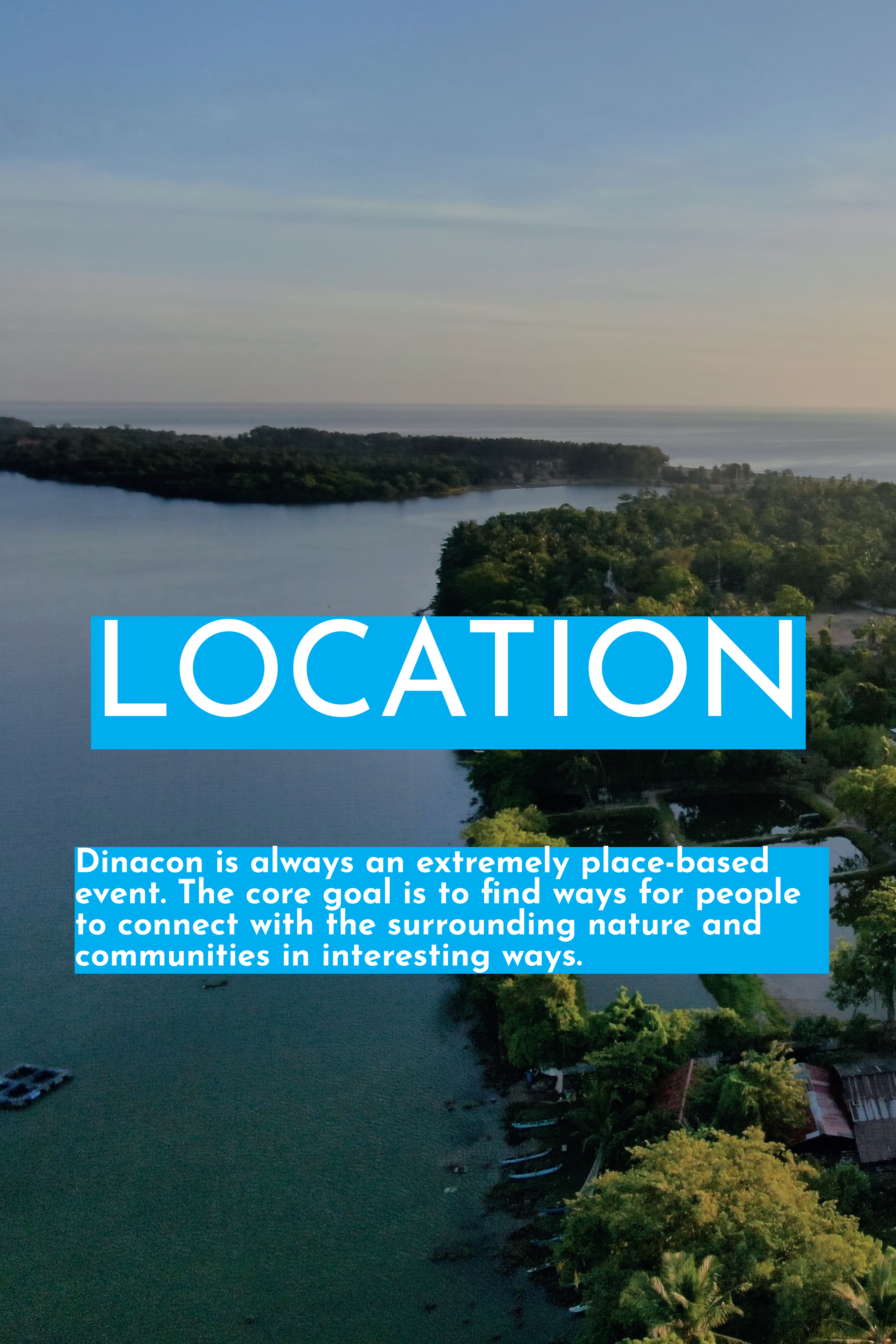
PARTICIPANTS

In 2022, we had 46 attendees foreign participants join dozens of locals to put on an amazing month-long conference! Our youngest attendee was 7 and our eldest attendee was in their 60s.

The multiple crises (political, fuel, food, covid) that all happened simultaneously during this Dinacon made it our most sparsely attended event, but those who were able to make it, enjoyed a deeply engaging and transformative experience.

MAFAZA TEXTILES
Knedl

Batticaloa, Sri Lanka 2022



LOCATION

Dinacon is always an extremely place-based event. The core goal is to find ways for people to connect with the surrounding nature and communities in interesting ways.

BATTICALOA FROM ABOVE
A thin spit of land dividing the ocean and the bay where the fish sing under the moonlight.

WELCOME
TO
DINACON

AT
DREAMSPACE ACADEMY
BATTICALOA, SRI LANKA

2022.DINACON.ORG

QUICK INFO FOR NEW DINASAURS

List of Dinacon Links
https://linktr.ee/dinacon

Logistics Contact
dinacon@dreamspace.academy

Social Media
Mastodon
https://fosstodon.org/web/@Dinacon
Instagram
instagram.com/digital.naturalism.labs
Twitter
twitter.com/dinaconference

SUPPORT

GOSH
Gathering for Open
Science Hardware

wandrer

HACKADAY

DINACON is sponsored by the Regional Development Grant of GOSH (https://openhardware.science), Digital Naturalism Laboratories (dinalab.net) in Panama, Dreamspace Academy (dreamspace.academy), Wandrer app (https://wandrer.earth), and New York Foundation for the Arts

and additional funding has been generously provided by and hackaday (hackaday.com) and many other individuals and small organizations to which we are incredibly grateful!

CODE OF CONDUCT

Dinacon's expects all participants to abide by a basic code of mutual respect.

Everyone is free to be themselves.

You must respect how others want to be.

Mistakes happen, especially in a fast, diverse, cross-cultural chaotic environment, but it's important to recognize and correct these mistakes before they become serious problems. So if you are experiencing or witnessing harassment, please let any of the dinacon or dreamspace leaders know as soon as you can so we can mediate and stop these problems.

Our goal is to repair any schisms that may occur between participants, but anyone doing egregious violations of the Code of Conduct are subject to immediate removal from dinacon.

Dinacon is an experimental conference about exploring new ways of interacting with nature! It's long-form and embedded in different natural areas and local contexts.

There are three basic goals for all dinasaurs:

1) MAKE SOMETHING
2) DOCUMENT AND SHARE IT PUBLICLY
3) GET AT LEAST TWO OTHER PARTICIPANTS TO PROVIDE YOU WITH RECORDED FEEDBACK

SCHEDULE

Planning: 2020-2022
Prepare: July 26-31
Dinacon: July 1 – 31
Clean up: Aug 1-3
Editing Proceedings: September 2022

Dinacon's schedule is emergent and decided by the dinosaurs as they see fit! Every Saturday is OPEN DAY, where dinosaurs can demo or present their projects they are working on to each other and the public!

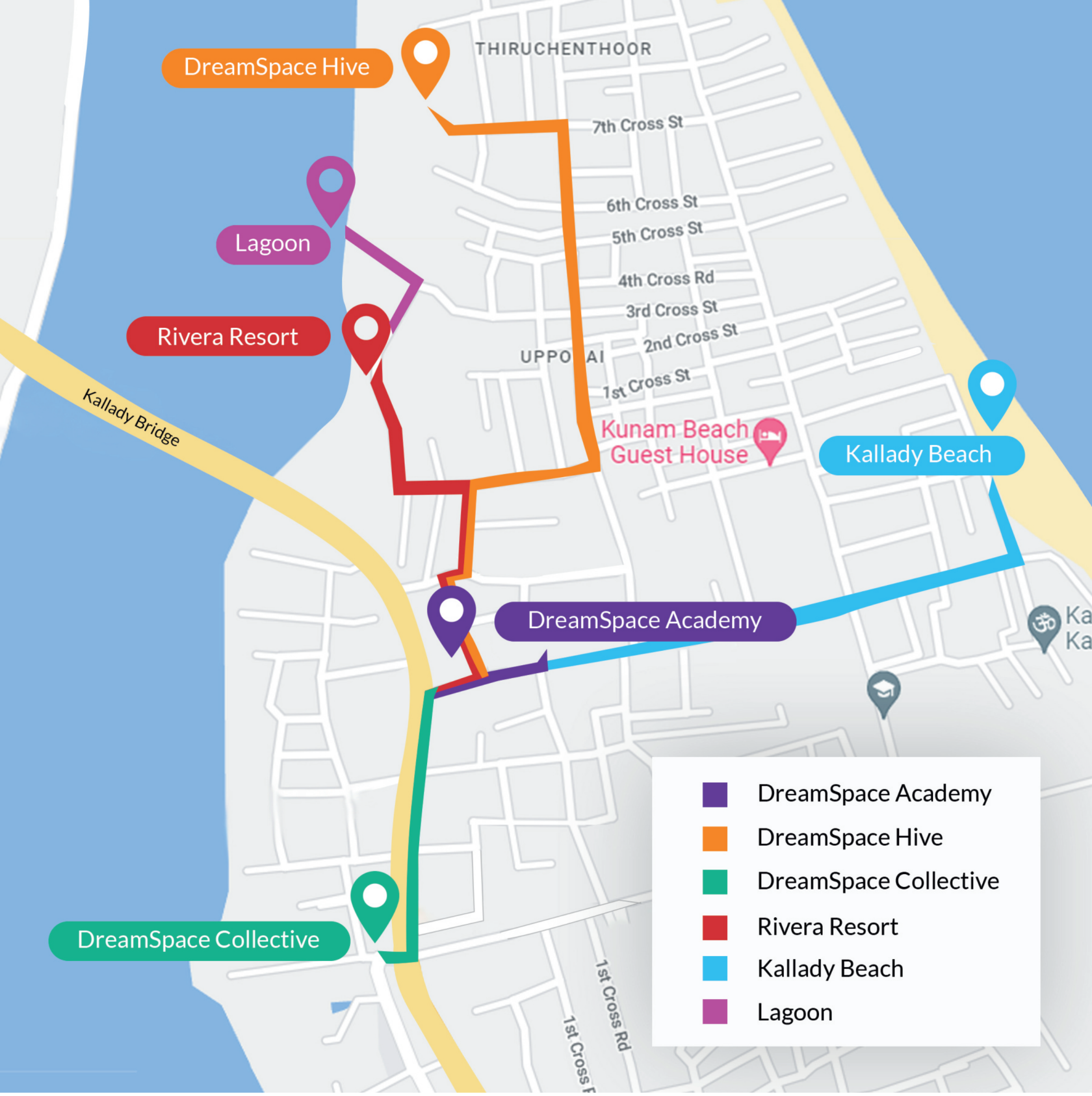
BATTICALOA + DREAMSPACE

BATTICALOA is a small town on the eastern side of Sri Lanka. Until recently, it had been an occupied territory during the horrific civil war.

The scars of this war are still very evident as a decades long ban meant nobody was allowed in the water, and hence swimming literacy is very low. The nearby coral reefs were also used for target practice for bombs by the occupying military.

Despite this, the community is still quite vibrant, and Dreamspace is helping set up new spaces for creativity and job development.

DREAMSPACE
ACADEMY


DreamSpace Hive
THIRUCHENTHOOR
7th Cross St
Lagoon
6th Cross St
5th Cross St
4th Cross Rd
3rd Cross St
Rivera Resort
2nd Cross St
UPPODAI
1st Cross St
Kallady Bridge
Kunam Beach Guest House
Kallady Beach
DreamSpace Academy
DreamSpace Collective
1st Cross Rd
1st Cross R
🟪 DreamSpace Academy
🟧 DreamSpace Hive
🟩 DreamSpace Collective
🟥 Rivera Resort
🟦 Kallady Beach
🟪 Lagoon

Riviera Resort - Housing, Chilling, Light Hacking

Dreamspace Hive - Main Maker Campus

Dreamspace Collective - Laser cutting, CNC, Welding

Dreamspace Academy - Admin, meeting spaces

Beach - swimming, snorkeling, campfires

Lagoon - Kayaking, Birdwatching, Science!

DREAMSPACE

PRESSURE COOKE
OFFICE ROOM
FIRST AID BOX

STORY LAB

DREAMSPACE
COLLECTIVE

Batticaloa, Sri Lanka 2022

Co - Creating The Dreams
www.dreamspace.academy

CREATURES

Here's a rundown of just some nearby creatures put together by Kishoth:

The Batticaloa Lagoon is not only beautiful, but this large body of water also houses many exotic species of flora and fauna. The lagoon is surrounded by mangrove forests and bird lovers will rejoice since many endemic and migratory bird species nests here. The lagoon waters are also home to many exotic creatures like monitor lizards and crocodiles.
This friend, also known as the Mugger or Marsh Crocodile, was spotted from the Riviera hotel where you will be staying, please don't get scared, they will bite but you are safe ;-).

For the bird lovers: (please note that some are spotted more commonly than others)

- Common Kingfisher
- House Crow
- Pied Kingfisher
- Little Green bee-eater
- Blue-tailed bee-eater
- Chestnut-head bee-eater
- Brown-headed Barbet
- Red-backed woodpecker
- Black Drongo
- Asian Paradise Flycatcher
- Oriental Skylark
- Red-vented bulbul
- Yellow-billed babbler
- Common Myna
- Oriental magpie robin
- Baya Weaver
- Paddy field pipit
- Indian Peafowl
- and Sea Eagles make huge nests above the residential areas

Fish:

- Carangidae
- Sphyranidea
- Clupeidae
- Leionathidae
- Cattle Fish
- Mangrove crabs
- (and of course the Singing Fish!)

Furthermore, you will of course find all kinds of insects, Like massive cockroaches, fireflies, a variety of spiders. Also, you will see Squirrels all over the place! And last but not least, if you will travel to nearby areas you will be able to find wild elephants and monkeys.

Batticaloa, Sri Lanka 2022

GardePro
26 °C / 78 °F
07/05/2022 12:57:48 AM
0005

In the biohacking lab, they cultivated various forms of fungi for a variety of experiments.

Batticaloa, Sri Lanka 2022

Charismatic Weaver ants became an integral part of the way we welcomed newcomers.

Using the open source Audiomoth, we captured real sounds of the singing fish during the full moon!

Elephants could be seen in a reserve as well as just alongside roads. Human-elephant conflict is a major challenge in Sri Lanka.

Batticaloa, Sri Lanka 2022

FOOD

The Kitchen has always been the first makerspace. Food has become an integral part of the Dinacon experience, and the "Dinnercons" sprinkled throughout these events have been spectacular.

Sharing food foraged nearby and crafting it with each other has been one of the most exhilarating forms of natural and cultural exploration!

Node leader, Pom, heard there was a food crisis in Sri Lanka, and not wanting to be a burden, packed all her own food for her trip.

DINNERCON IS ON

"Dinnercons" led by Ahac and Pom became a staple event of Dinacons that is often difficult to predict when they will happen, but they almost certainly do.

EMERGENT SCHEDULE

Dinacon has no pre-planned schedule. This is because we want the experience to grow out of the interactions developed at the unique site. (It's also because we know that whatever we plan before will drastically change when we arrive).

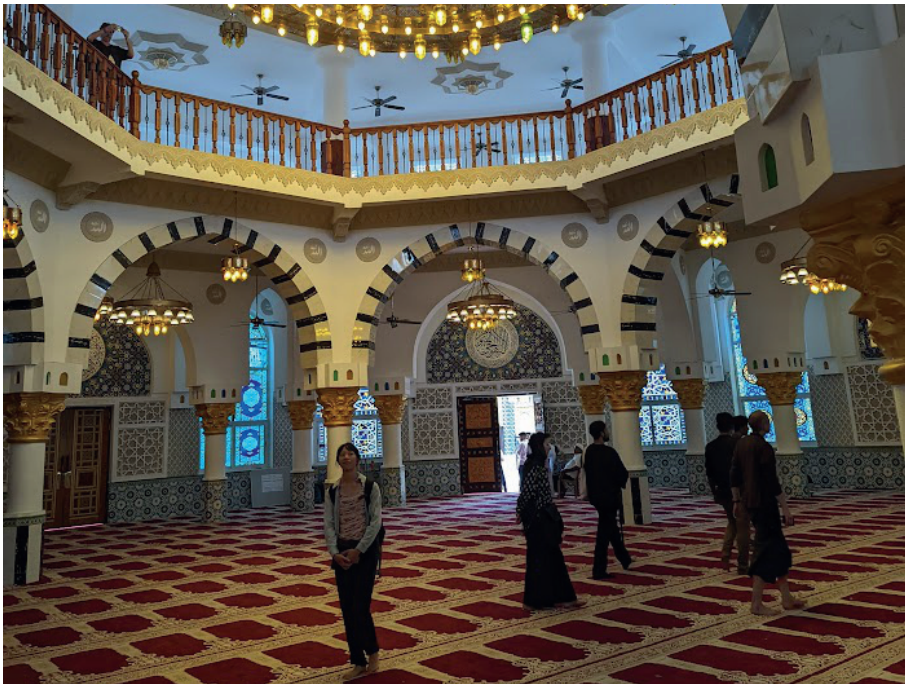
Instead, we have a basic daily structure divided by breakfast, lunch, and dinner meals. Participants then are free to post workshops or events however they desire!

We also have a special we also try to set aside.

Saturday - Open Day:
Open Day, inspired by PIFcamp, is a public demo day, where we invite the nearby community to check out everyone's cools projects!

DINACON
Sun Day
MonDay
TuesDay
WednesDay
ThursDay
FriDay
SaturDay
4
5
6
8
CULTURAL DAY TEMPLE + FOOD
Breakfast
Lunch
Dinner
OPEN DAY PRESS + GUESTS + PARTY

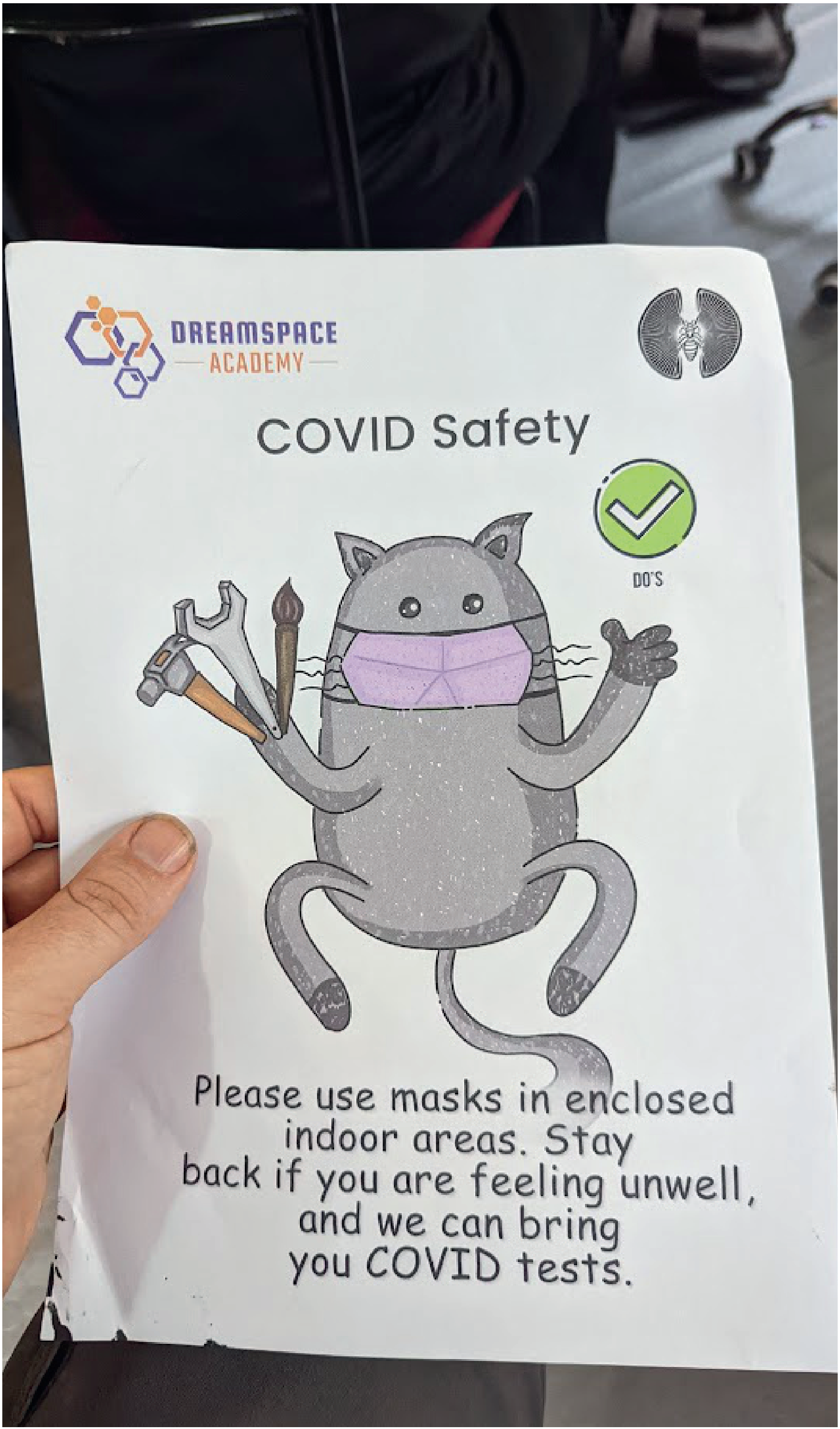
We set aside several days in the schedule for "Cultural Days" as well, where we went on tours of local establishments, landmarks, or homes to learn more about our host country.



COVID

Unfortunately, this third Dinacon marked our first conference since the global COVID pandemic. Despite our numerous precautions we still had to deal with an outbreak of this terrible disease.

The Dinasaurs are a resilient, creative, and kind batch though, and worked dillegently to help the sick, keep each other safe, and build outdoor makerspaces to keep the hacking going!

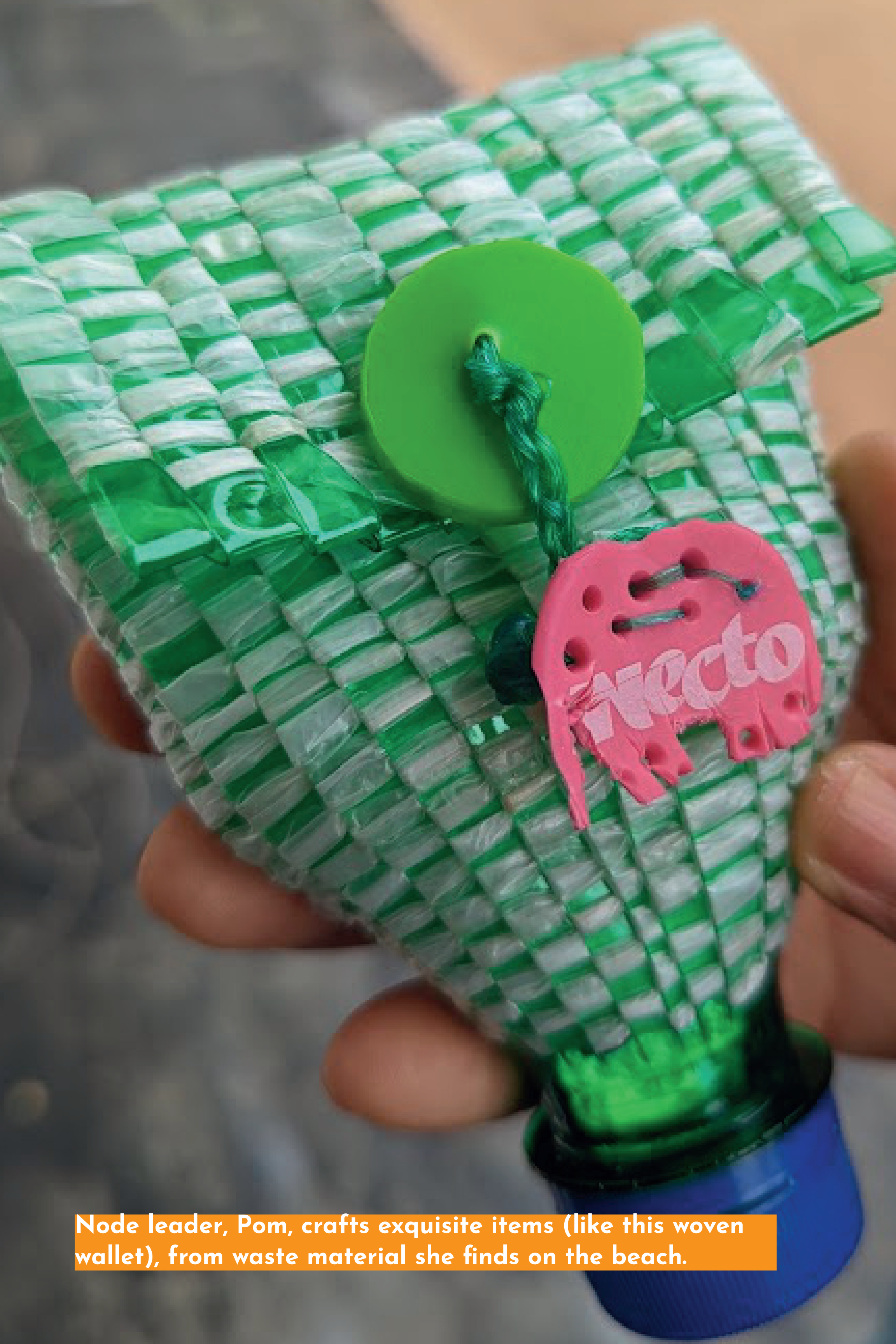


DREAMSPACE
ACADEMY

COVID Safety

DO'S

Please use masks in enclosed
indoor areas. Stay
back if you are feeling unwell,
and we can bring
you COVID tests.



Node leader, Pom, crafts exquisite items (like this woven wallet), from waste material she finds on the beach.

COCONUT HEART
Monica turned coconuts into cyborg beating hearts in a workshop about robotics held on the lagoon.

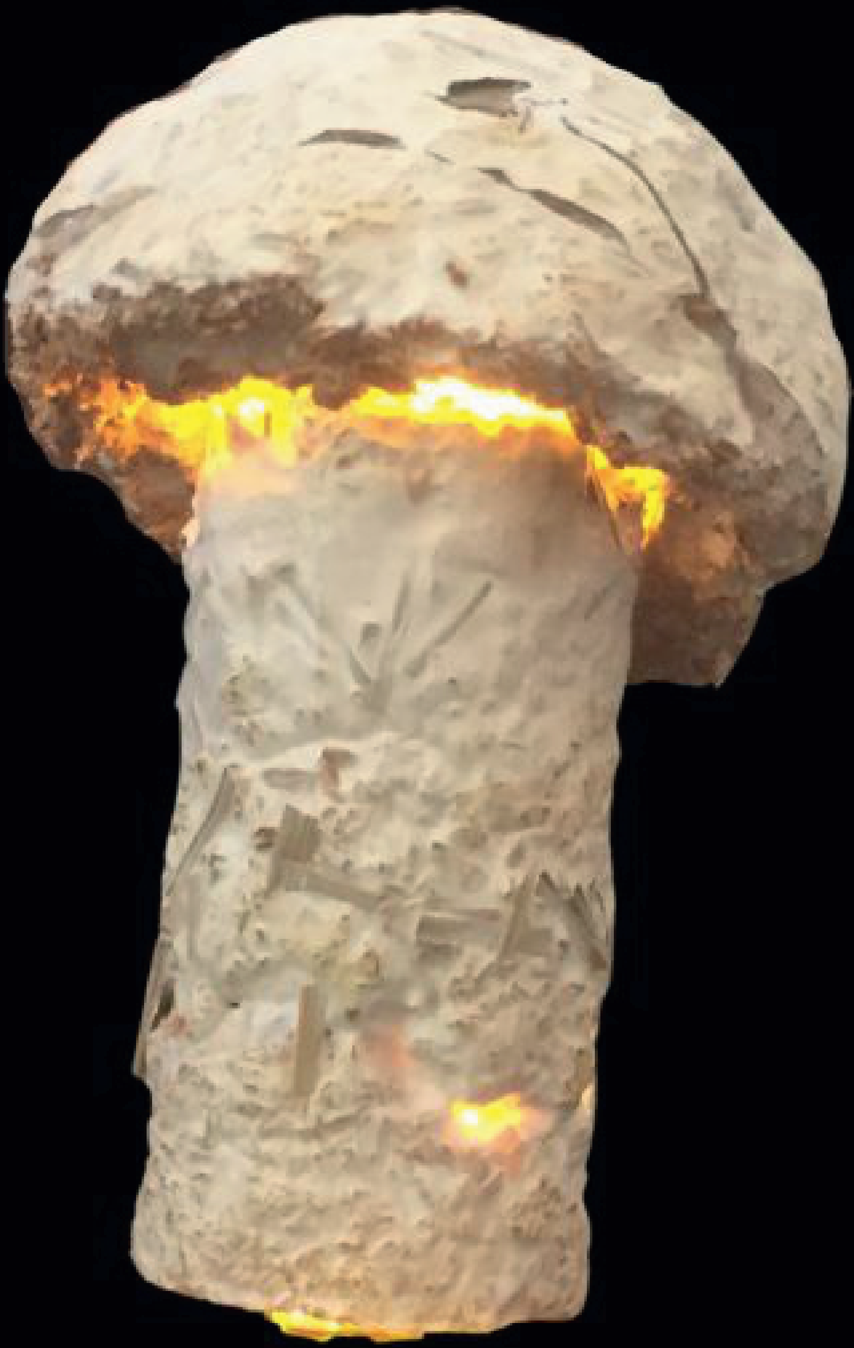
PROJECTS

The local and foreign participants joined together to create dozens of projects over the course of Dinacon 2022. Together we were able to create art, infrastructure and technological explorations of Batticaloa and Dreamspace.

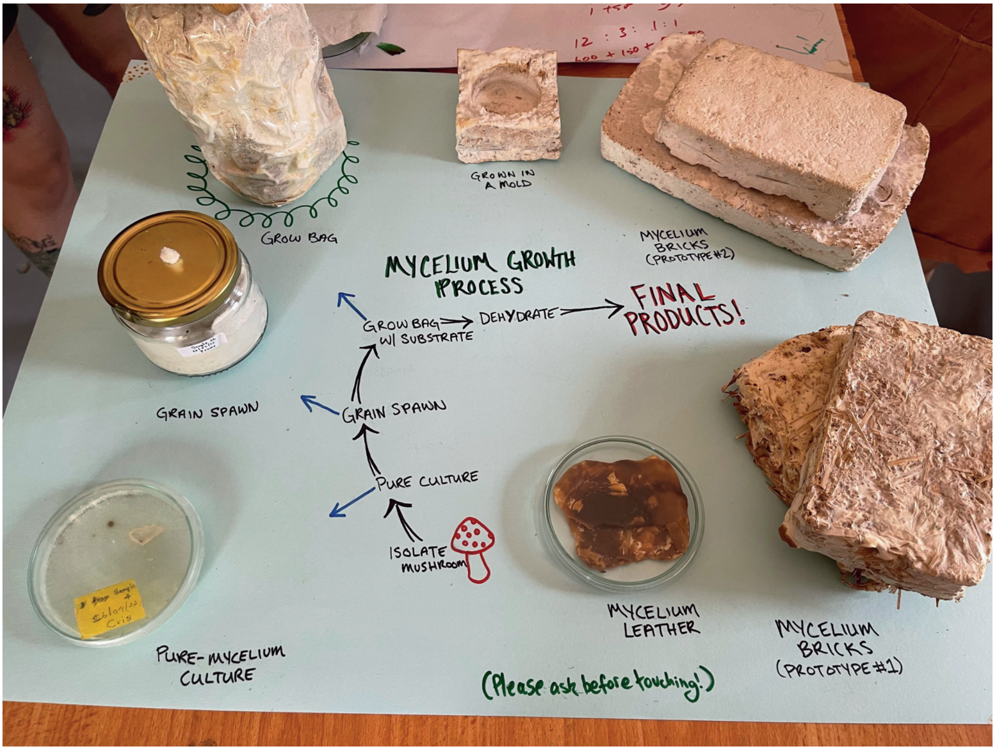
MUSHROOM-MUSHROOM

Cristian Silva, Pramo Saumyamali, Brian Huang and Tali

A Mushroom shaped lamp made out of mushrooms!



Mushroom-Mushroom Lamp was a part of the "Dreamfungi" project. This is a grassroots innovation project to locally research, develop and produce a biocomposite material using mycelium as an alternative sustainable material for packaging, construction, apparel and accessories industries.


GROW BAG
GROWN IN A MOLD
MYCELIUM BRICKS (PROTOTYPE #2)
MYCELIUM GROWTH PROCESS
GROW BAG W/ SUBSTRATE
DEHYDRATE
FINAL PRODUCTS!
GRAIN SPAWN
GRAIN SPAWN
PURE CULTURE
ISOLATE MUSHROOM
PURE-MYCELIUM CULTURE
MYCELIUM LEATHER
MYCELIUM BRICKS (PROTOTYPE #1)
(Please ask before touching!)
12 : 3 : 1 : 1

The mushroom made out of other mushroom material (mycelium) was a thought that came out from delegates Dinacon 2022 at DreamSpace BioLab. By the time this idea came in Cris and Pramo already figured out how to make mycelium biocomposites with locally available biomass and fungi.

Contributors:

Making molds for the lamp

Tali and Pramo wanted to make the molds quickly with coconut shells (the cap of the mushroom) and

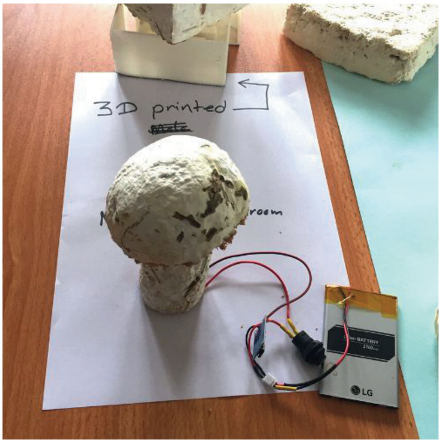
Mushroom-Mushroom Lamp was a part of the "Dreamfungi" project. This is a grassroots innovation project to locally research, develop and produce a biocomposite material using mycelium as an alternative sustainable material for packaging, construction, apparel and accessories industries. were made by others. He used Ganoderma fungi to make mushroom lamps with sawdust. After 5 days he took mycelium material out of the molds and let it grow for another few days in a growth container. After leaving the mushroom lamp in the growth container it got the distinct colour and texture of mycelium material.

ADDING THE LIGHTS FOR THE LAMP

Brian made and gave one of his LED lights from the AnyLamp project (documentation is available). The light was set up at the bottom of the mushroom stem.

Cris
SCOBY GROWTH PROCESS
(lift pieces gently!)

OFFICE ROOM
DreamSpac

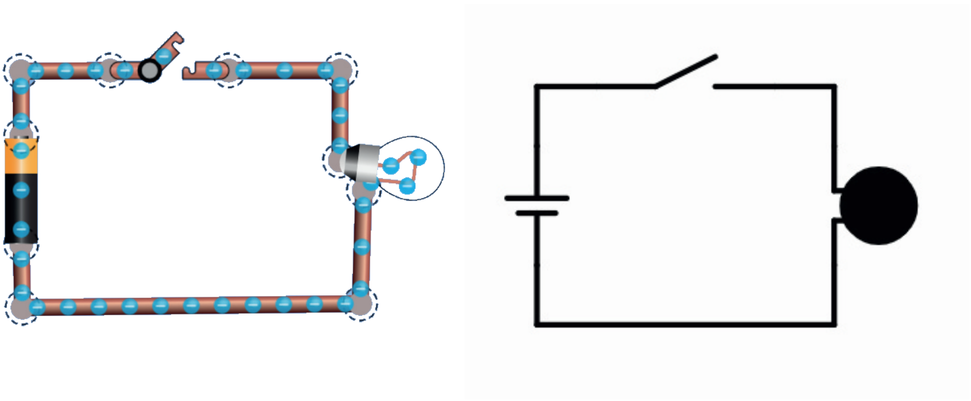

3D printed
BATTERY
LG

ANYLAMP

BRIAN HUANG

Turn anything into a Lamp!

The basic circuit for a lamp has the following three components: 1) a power source, 2) a switch, 3) a lamp. The basic circuit for this looks like figure 1 below.

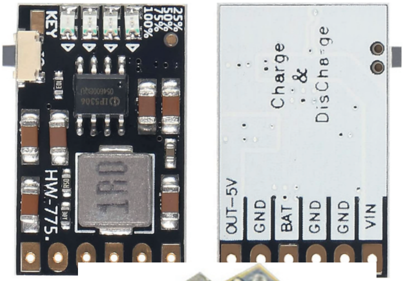


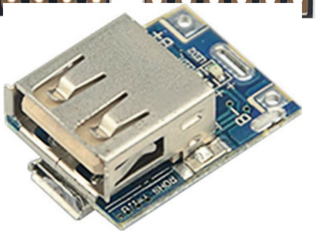
We can make use of recycled recycled lithium polymer batteries that are found in most rechargable devices. These batteries come in either flat form or 18650 tube-form and often when a rechargeable device breaks, only one battery has gone bad. The others can be reused! With a small charging circuit, we can create a lamp that also doubles as a USB power bank!

The premise behind this project is to take this simple circuit and create an enclosure / cavity / lampshade to hold the electronics. How can we re-purpose things like coconut shells, banana leaves, discarded, empty water bottles, and even re-formed plastic sheets to make battery banks / lights?

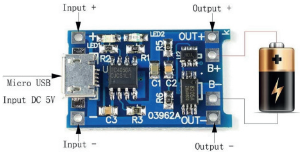
PARTS

2A 5V Charge Discharge Integrated Module 3.7V - $0.99


KEY
100%
75%
50%
25%
HW-775
Charge & DisCharge
OUT-5V
GND
BAT
GND
GND
VIN

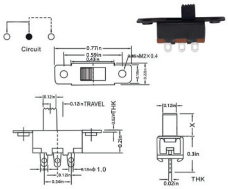


5V 1A Boost Step-Up Power Supply Module Lithium Battery Charge Protection Board HT4928S - $0.79


Input +
Output +
Micro USB
Input DC 5V
Input -
Output -
OUT+
B+
B-
OUT-

5V Micro USB 1A 18650 TP4056 Lithium Battery Charging Board - $0.89

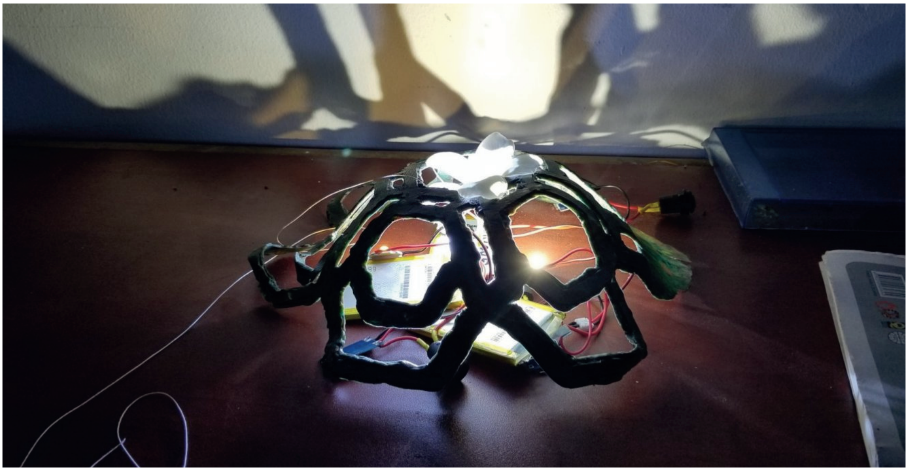
12mm Self-Locking Latching Push Button Switch - $0.58


Circuit
0.77in
0.59in
0.43in
TRAVEL
THK
0.3in

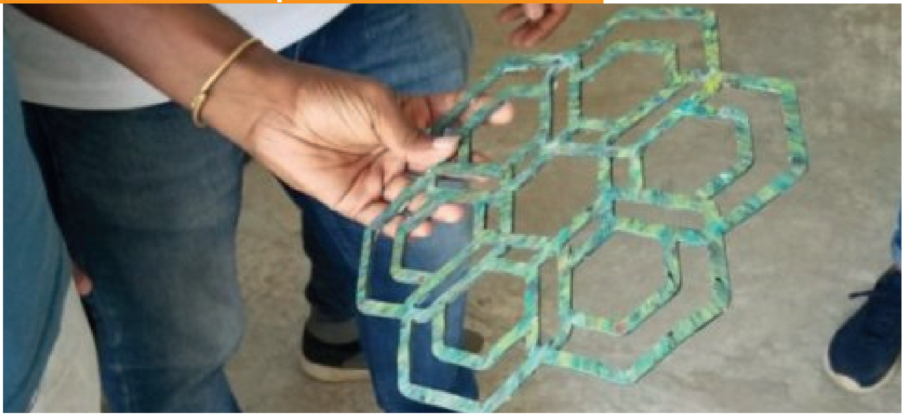
Micro Miniature Slide Switch

3W 5V High Power Led Chip, LED Lamp - $0.55

Even something as simple as a paper tube can create some stark and visually stunning patterns. Here are a few examples of some experiments we did looking at different items we could use as lamp shades. Paula laser-cut heat pressed bottle caps and then heat formed it into a bowl shape, and William helped play with some cool lighting design ideas!



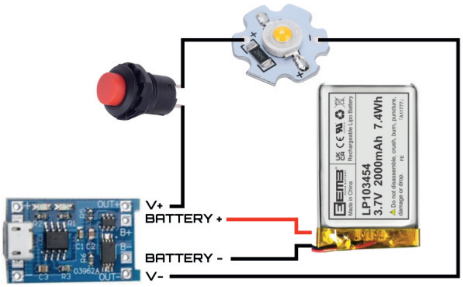
Laser cut heat pressed bottle cap formed into a lamp

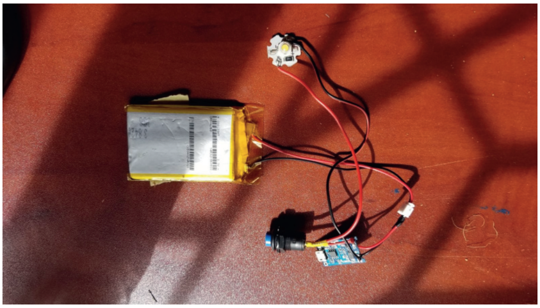


PROCESS

STEP 1

find a source for power. I've been collecting old laptops and laptop batteries that no longer charge fully. Inside most laptops will be a series of lipo battery cells. It is important to be careful when removing these. Take care to not pierce the battery cells or short the positive to negative terminals.





I carefully dissected these batteries from an old laptop. In this laptop, the cells are stacked two high. From this one laptop, I have 8 total cells.

STEP 2

Connectorizing. I like to connectorize my batteries with a standard 2.0 mm JST connector. It turns out that there is no official standard for which way + and - are pinned on the JST. I start by soldering the JST Male Pin End to the charging board. So that I don't get my wires flipped, I plug the battery end to each board.

Step 3 - Soldering the battery terminals. Some of the batteries have copper pads, but not always. Take care when soldering to Lipo batteries. Use a multimeter to verify that the battery still has some charge and which terminal is + and -.

Step 4 - Soldering the LEDs. I like using this 24 gauge red/black speaker wire (https://a.co/d/7RghuIq) for a lot of my projects. Solder red to the positive and black to the negative side of the LED. When soldering, note that these LEDs have an aluminum base and do take a lot of heat. They will get very hot when soldering.

Step 5 - Cut the red wire to the LED and splice / insert the button / switch.

Step 6 - Find a suitable vessel / box / container for your new lamp. Anything can be a lamp.

We found that these water bottles worked impressively well to disperse the light. The team at Dreamspace and Spacelab helped with a few ideas. We played around with putting the LED inside the cap and drilling a hole. And, putting bleach or other dispersing agents in the water.

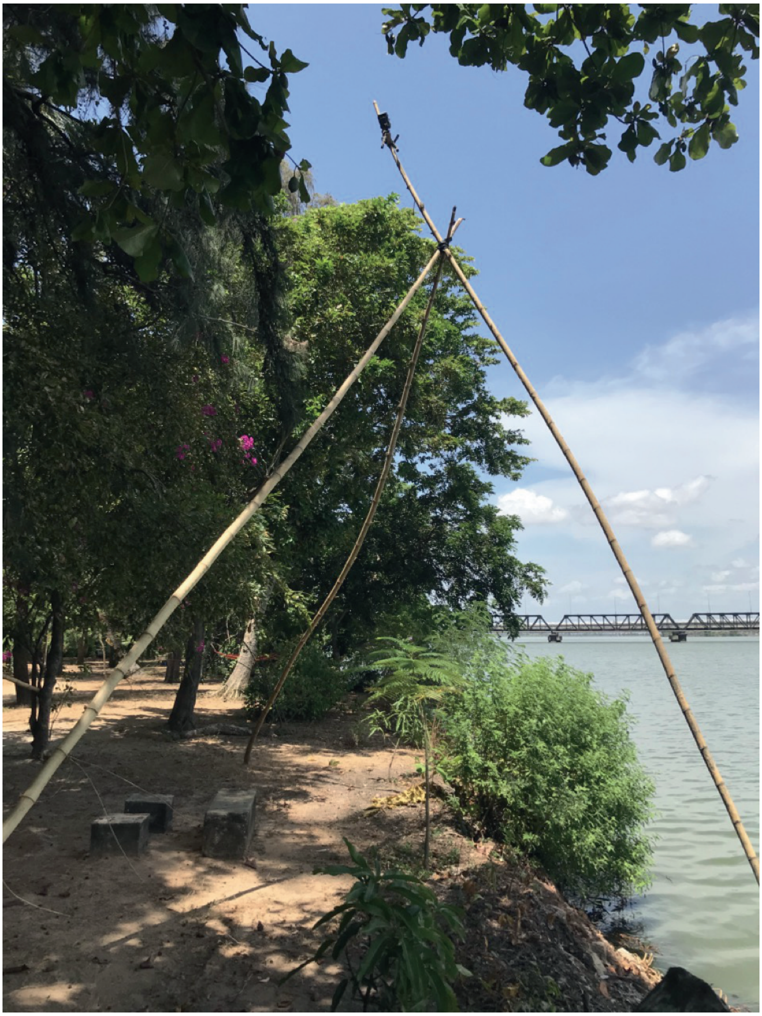
In the end, we found that lighting the bottle from the bottom worked best. The LED does generate a decent amount of heat. Having the mass of water above the lamp is probably a good thing!

BATPOD

LEONIE ET AL

A humongous tripod to see what the flying foxes are up to!

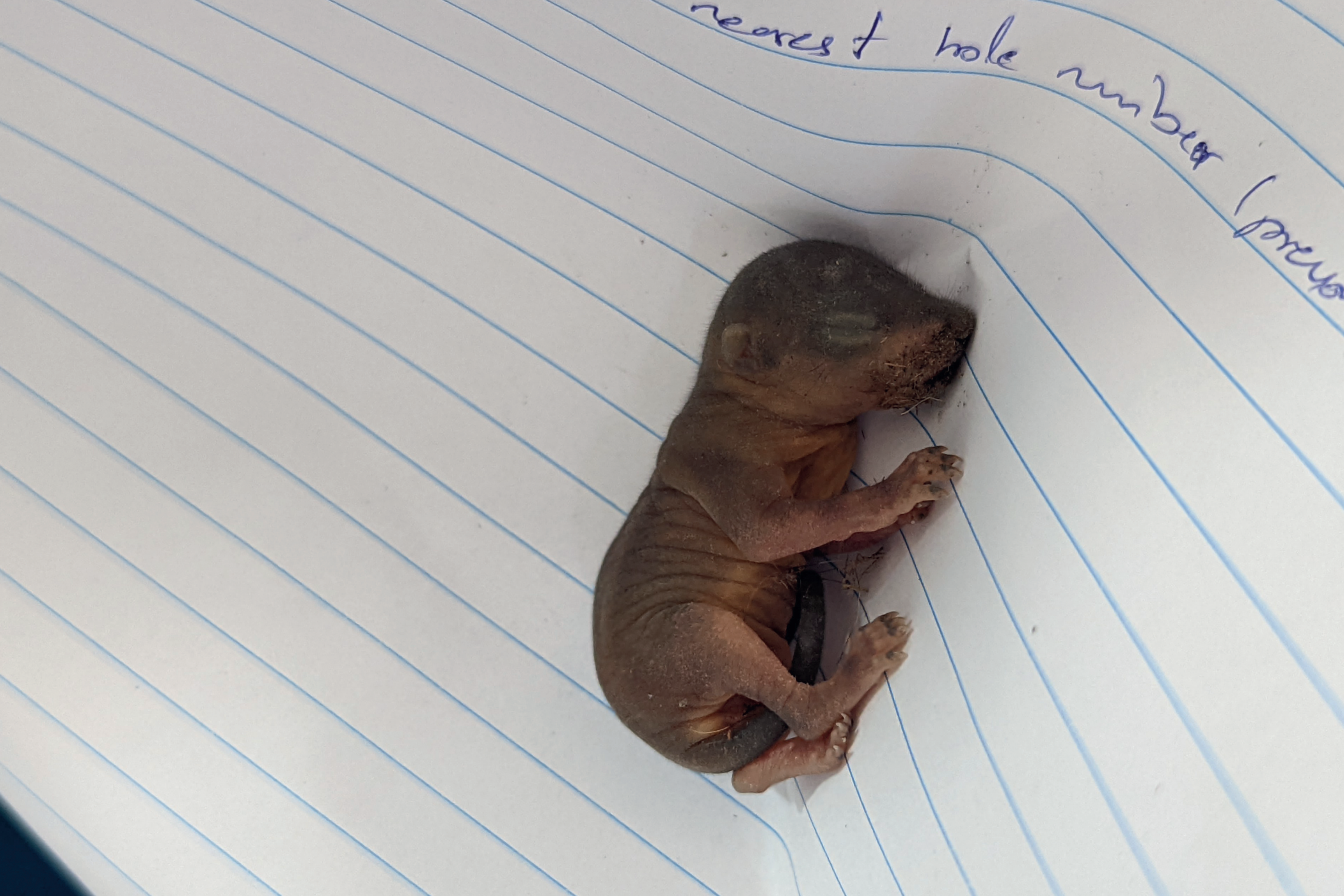
Leonie and friends worked on making a humongous tripod to work with the camera trapping crews. They wanted to see the nests of the Flying Foxes high up in the trees at night!



BABY SQUIRREL

ALEX HORNSTEIN, RAMY KIM, MANY DINASAURS

A baby squirrel fell out of the ceiling and we couldn't get it back to its mom. Luckily the dinasaurs raised it and nursed it back to health!



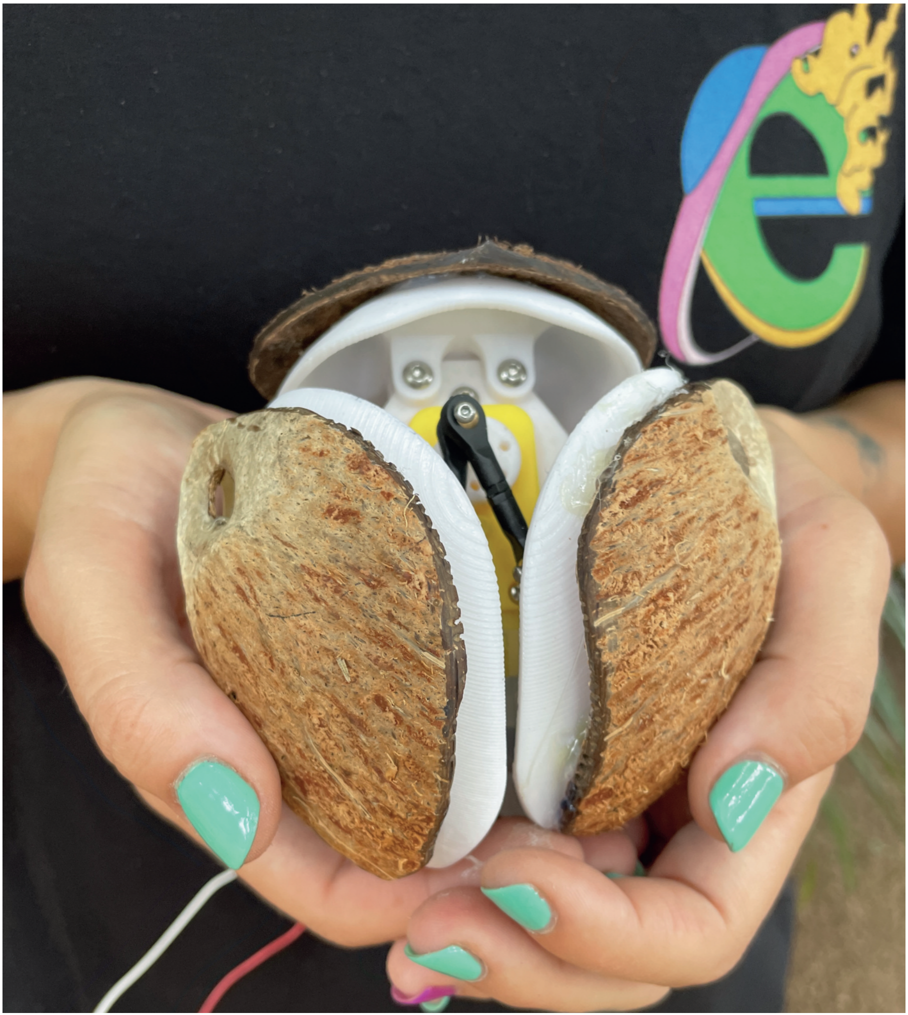
nearest hole number (previo

DINAHEART

MONICA RIKIC AND CABANA HACKERS

Coconut robot heart and robot jam at the Cabana Lab. Can you feel the beating of my coconut heart?

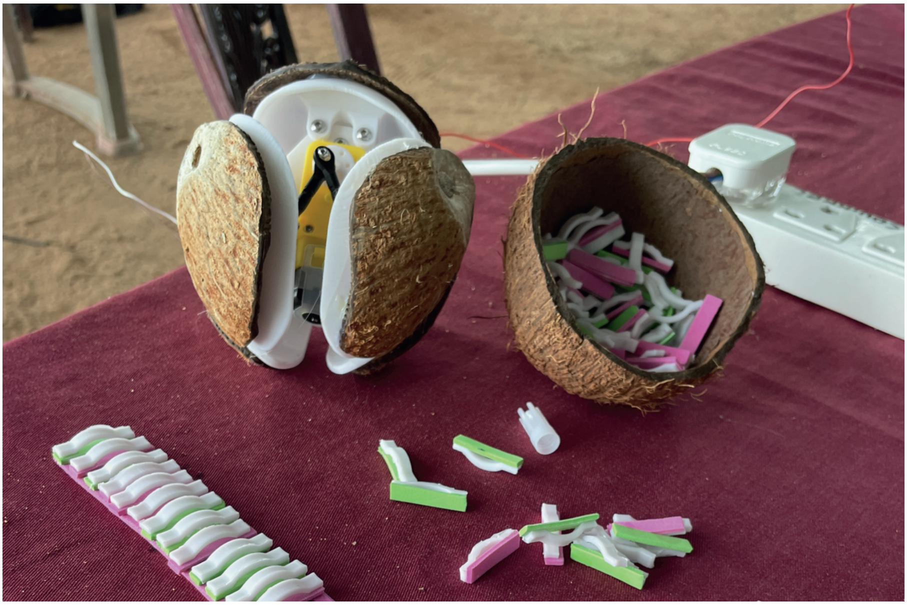
As soon as I arrived to Dinacon, we had to set up a special outside Lab that we called The Cabana Lab. It was a very nice working space surrounded by trees and next to the lagoon. Pure Dinacon style!



We managed to organize a very nice space to work in some mechanical things and robots that mixed artificial and natural components. We also set up the recycled plastic PLA maker and the 3D printer.

I brought with me some 3D printed stuff to work with and make some robot experiments. One of them was a skeleton of an animatronic heart and Leonie helped me to put it together. We added a very nice coconut shell cover

(inspired by Andy's proposal) to create what we called Dinaheart, a Coconut robot heart that merges with nature and seems alive!



We had some other experiments happening around robot jamming all week at the Cabana Lab and at the Dreamspace Collective space.

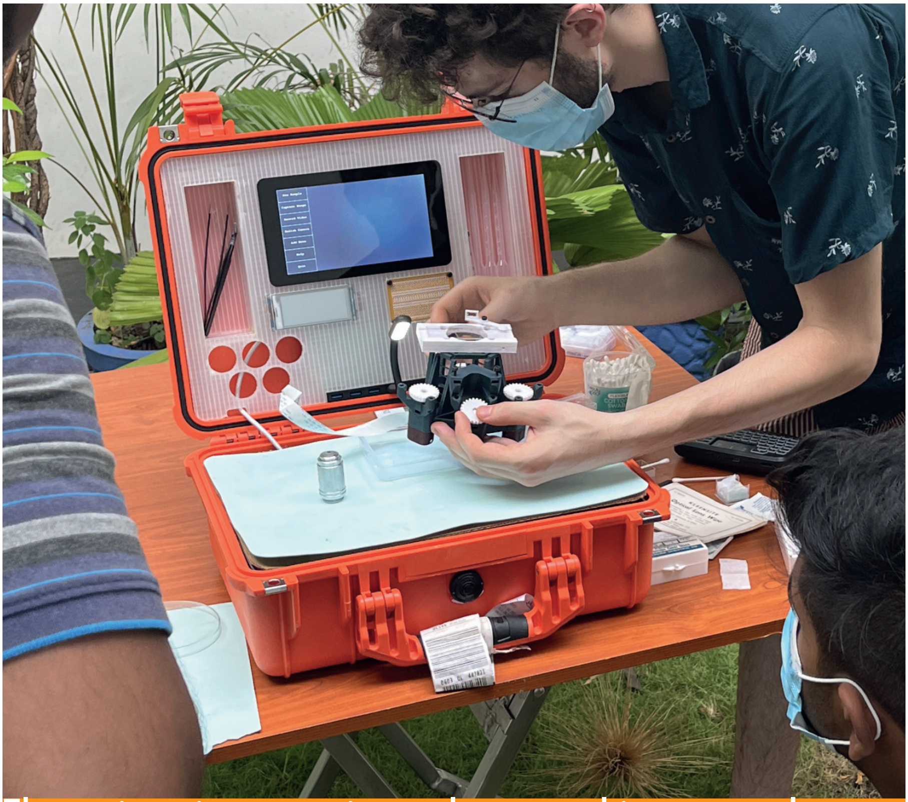
It is so nice to be sharing electronics experiments with a lot of people with this fantastic views.

MICROSCOPE IN A BOX

ELI SILVER

Eli created a lovely self-contained, interactive version of the Open Flexure Microscope.

It's rapidly deployable anywhere for people to easily access the microscopic world!



The entire microscope is neatly encased in a rugged watertight box that flips open to become an interactive display.

DISCO APOCALYPSE: ART EXPERIMENTS

BETTY SARGEANT

In the middle of the Dinacon month I went with some of the Dinosaurs and ventured onto the beautiful Batticaloa lagoon to listen to and record the famous singing fish.

It was a full moon and a super moon, so the conditions were ideal. The ‘singing’ comes from plainfin midshipman, a species of toadfish that glow green

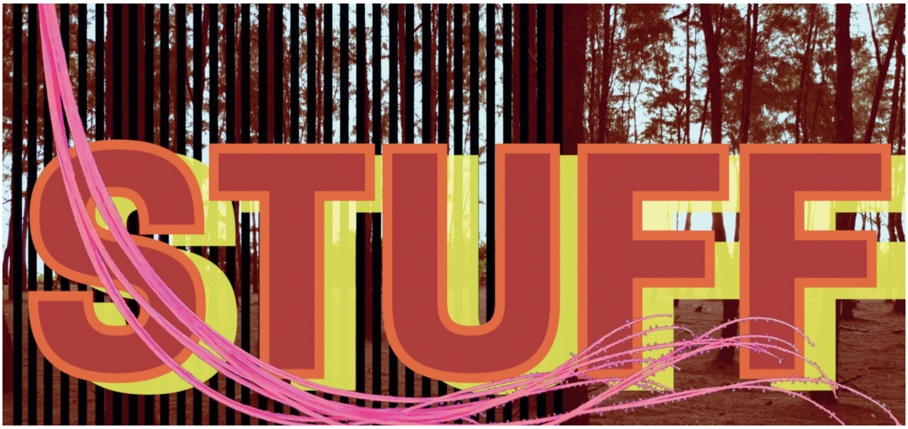
during mating times. The fish produce an aquatic frog-like mating call. They are best heard at about 10 PM on a full moon.

My singing fish recordings were collected over two nights of the July 2022 full moon. I used a Zoom recorder and a custom made hydrophone that was submerged to about 6 meters into various parts of the central lagoon at night.

I also ventured out to the end of the Batticaloa peninsular before dawn to collect audio and video

Preparing equipment for experiments

footage. The casuarina pine forest at the end of the peninsular was well worth the multiple 1-hour bike ride through sand tracks. The forest was planted post-tsunami. The trees are organised in unnatural rows, creating uncanny organic order.

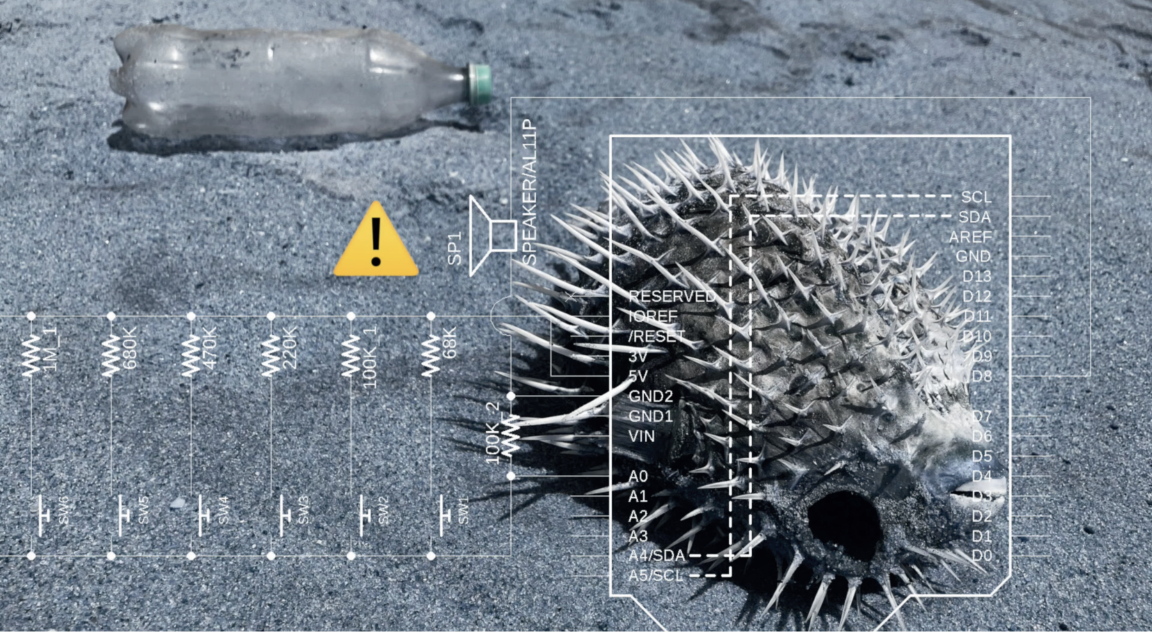


During Dinacon I drew on a variety of audio-visual footage, that I collected over my Dinacon time, to make a series of trash-bag video art experiments. These video works are a commentary on the impact of hyper-consumerism on our natural ecosystems. The image below is a screen grab from one of the video works. It features drone footage from the end of the Batticaloa peninsular, whale baleen (we found on the Batticaloa beach), graphic design, trash typeface design and singing fish audio.

The final project will be developed into an immersive installation that will have its premier at the 2022 Karachi Biennale (Pakistan).

For more project details visit:

https://pluginhuman.com/arts/disco-apocalypse/ and @PluginHUMAN.

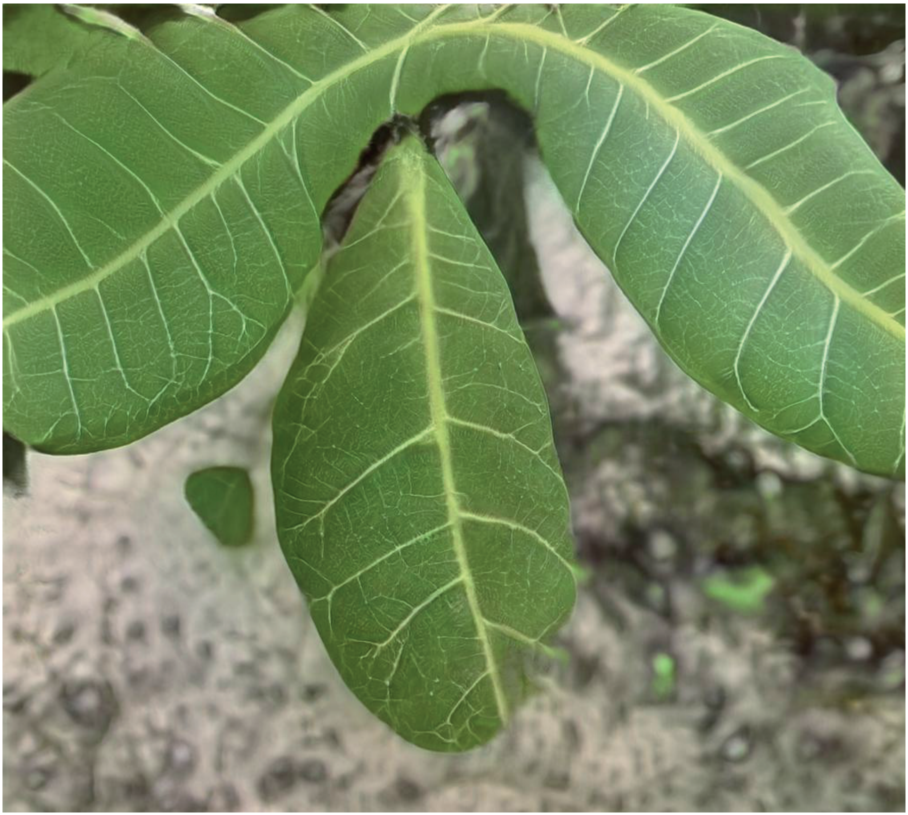

SP1
SPEAKER/AL11P
1M_1
680K
470K
220K
100K_1
68K
100K_2
SW6
SW5
SW4
SW3
SW2
SW1
RESERVED
IOREF
/RESET
3V
5V
GND2
GND1
VIN
A0
A1
A2
A3
A4/SDA
A5/SCL
SCL
SDA
AREF
GND
D13
D12
D11
D10
D9
D8
D7
D6
D5
D4
D3
D2
D1
D0

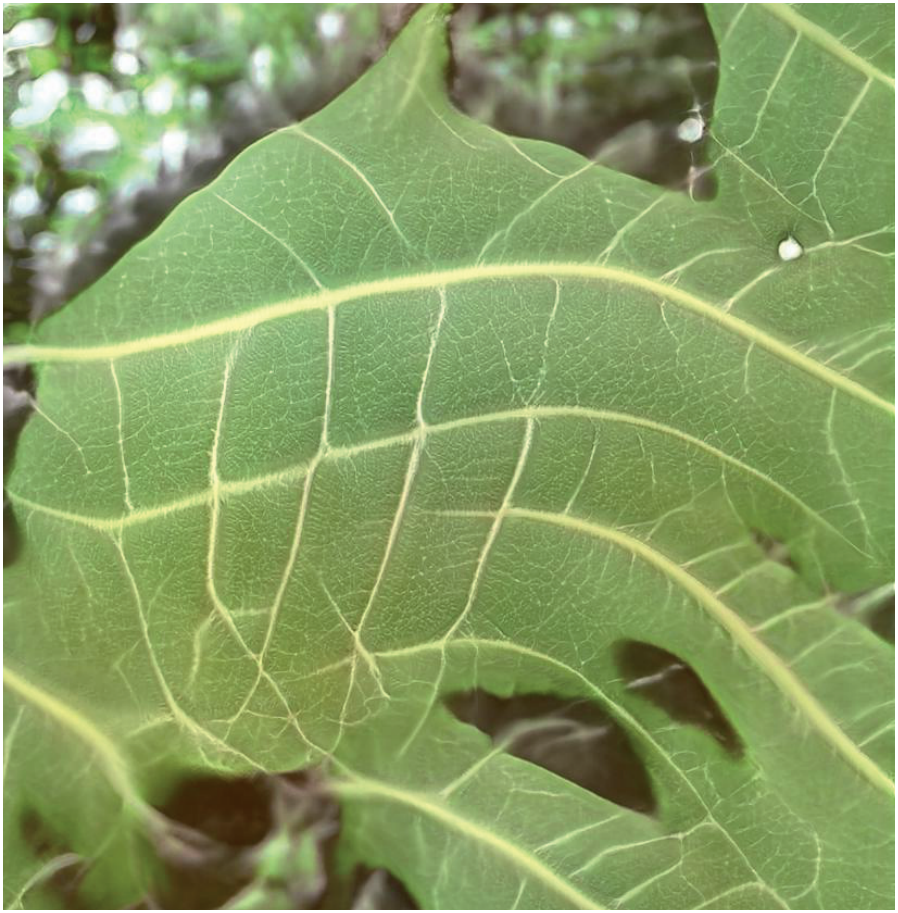
WOW

AI GENERATED CASHEW LEAVES

DAVID BOWEN

This video was produced @dreamspace.academy with the support of @hikinghack and @digital.naturalism.labs using 1000 images of cashew leaves. The leaves were used to train an artificial intelligence image generator. The trained AI output a video of synthesized cashew leaves morphing into one another.





COTTON COCOONS

LEONIE BRAMBERGER

Creating artificial nests from natural materials

The Cotton Cocoons are a product of strolls around the Riviera Resort area and a tour to a local handloom manufacturer.

During the strolls we came across some mystical already hatched cocoons and started wondering what metamorphosis took place in there. Speculation for me always has to do with a haptic understanding of what's happening, so I decided to harvest some cotton from the bushes around and make my own cocoon. The process involved getting to know the material, spinning yarn and trying out different cocoon shapes with crochet.

Locally foraged cotton hand-spun into yarn

Speculative thoughts coming up throughout the process circled around making a human sized cocoon for myself and others, and the necessities involved in such a lifeform. Imagining water pipe systems and air flow tunnels integrated in the cocoons skin, but also questions of comfort like “What are the acoustics like in a cocoon?” and in contrast to beehive structures like sleeping capsules, thinking of expandable, stretchy cocoon walls, that adjust to any size of group, who wants to share a space.

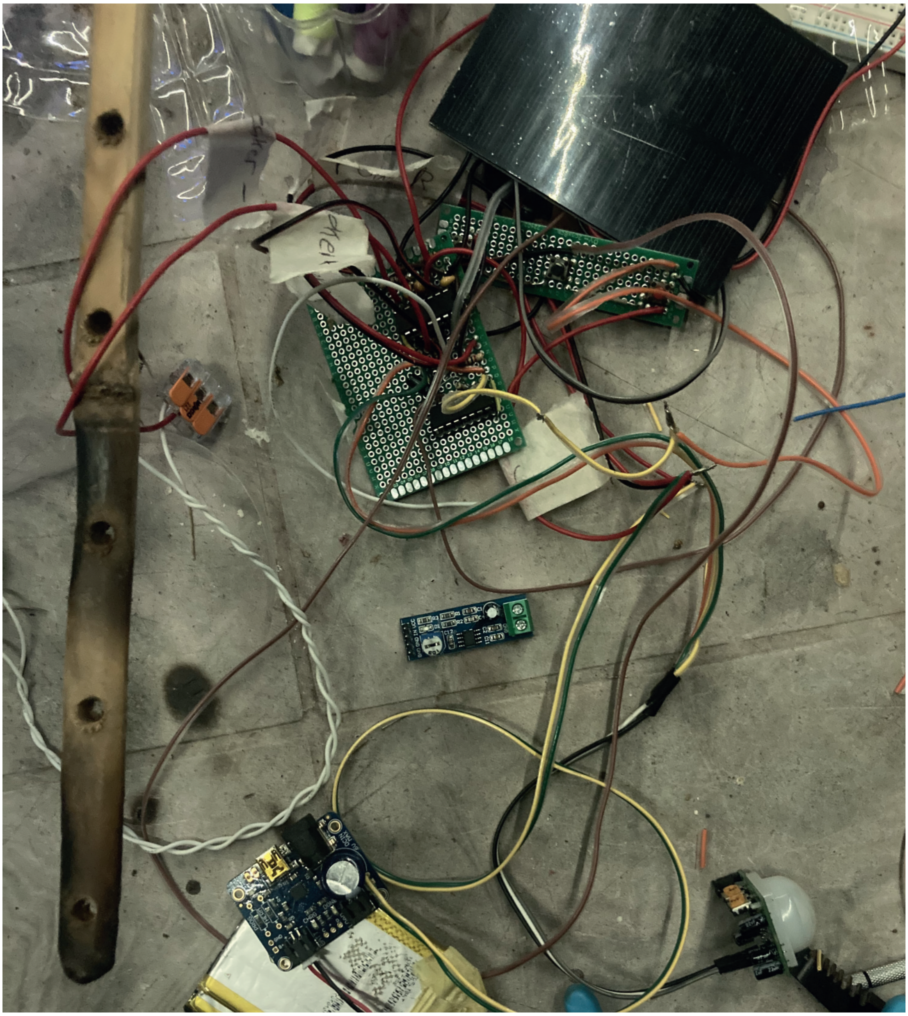
The idea of building a shell out of saliva or sticky webs your body can produce as waste also combined really well with the plastic-bottle-3D-printing-project, since it’s sticking together waste we produce into new shapes.

I also found it to be very interesting to think about the stages of human life, in which we would move into such a cocoon to allow ourselves to change form. Thinking of transitions as a very conscious process, that take time and a specific space, instead of letting it happen while keeping up with everyday life. What do we look like when we go in the cocoon, and who are we when we hatch?

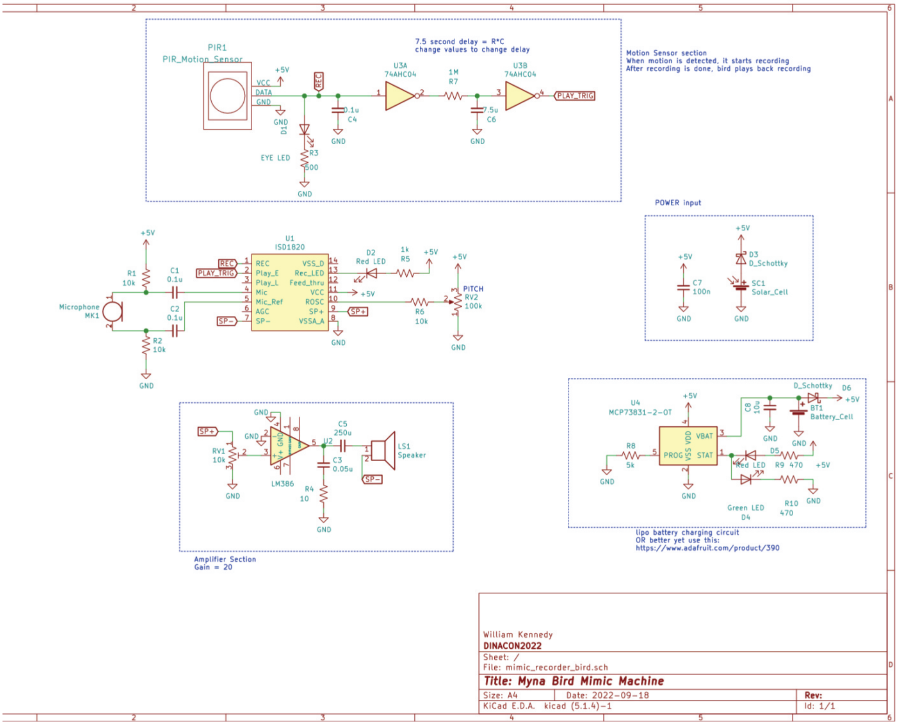
CYBERMENAGERIE - MYNA

WILLIAM KENNEDY WITH LEONIE BRAMBERGER AND RODOLFO CASTRO

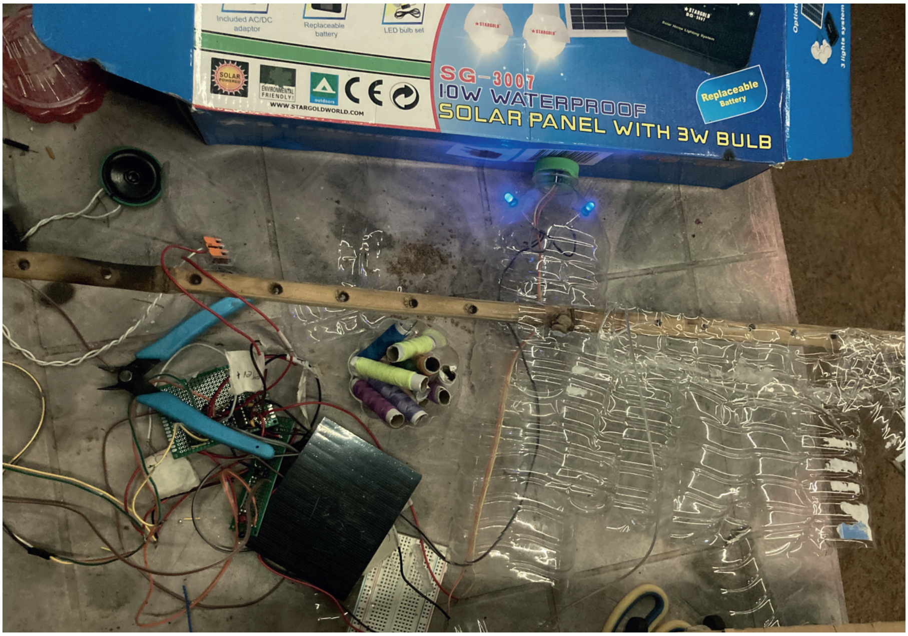
This is a project inspired by the many myna birds we encountered in Batticaloa. After doing some research on the birds, I found out that if they were put into



captivity, the birds would start mimicking their captors, very similar to a parrot. If you can't beat them, join them? Or maybe a form of Stockholm Syndrome? To explore this interesting natural phenomenon, I decided to create an electronic parroting bird inspired by the captive myna. Although something like this could be completed easily with a microcontroller, I decided to go oldschool and use digital logic chips and a


7.5 second delay = R*C
change values to change delay
Motion Sensor section
When motion is detected, it starts recording
After recording is done, bird plays back recording
PIR1
PIR_Motion_Sensor
VCC
DATA
GND
+5V
REC
D1
EYE LED
R3
500
0.1u
C4
U3A
74AHC04
1M
R7
7.5u
C6
U3B
74AHC04
PLAY_TRIG
GND
U1
ISD1820
REC
Play_E
Play_L
Mic
Mic_Ref
AGC
SP-
VSS_D
Rec_LED
Feed_thru
VCC
ROSC
SP+
VSSA_A
R1
10k
C1
0.1u
C2
0.1u
R2
10k
Microphone
MK1
D2
Red LED
1k
R5
PITCH
RV2
100k
R6
10k
POWER input
C7
100n
D3
D_Schottky
SC1
Solar_Cell
SP+
RV1
10k
LM386
U2
C5
250u
C3
0.05u
R4
10
LS1
Speaker
SP-
Amplifier Section
Gain = 20
U4
MCP73831-2-OT
PROG
VSS
VDD
VBAT
STAT
R8
5k
C8
10u
D_Schottky
D6
BT1
Battery_Cell
D5
Red LED
R9 470
Green LED
D4
R10
470
lipo battery charging circuit
OR better yet use this:
https://www.adafruit.com/product/390
William Kennedy
DINACON2022
Sheet: /
File: mimic_recorder_bird.sch
Title: Myna Bird Mimic Machine
Size: A4
Date: 2022-09-18
Rev:
KiCad E.D.A. kicad (5.1.4)-1
Id: 1/1

CMOS digital voice recorder chip (ISD1820). The goal is to have the bird listen when it detects motion, then play the sound back after it is done listening. The

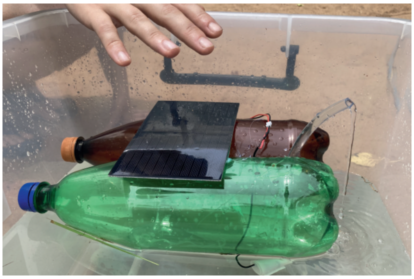


major design challenge was how to get the chip to play back once it had recorded. To achieve this, I set up 2 inverters with a RC filter in between them that creates a time delay. That way, the chip would get the trigger signal to play the sound after the recording had taken place. A basic prototype was created and a plastic bottle myna bird to house the electronics was created. The bird is powered by the sun via a solar panel. The solar panel also charges a small Lipo battery which powers the bird at night.

CYBERMENAGERIE - DUCK

WILLIAM KENNEDY WITH LEONIE BRAMBERGER AND RODOLFO CASTRO

A quick solar ‘duck’ made from trash soda bottles, a solar panel, and a pump. The duck swims across the lagoon by spurting out water out its backside, an elegant nod to a duck shaking its tail as it glides. This was a proof of concept for one of the animals in the ‘Cybermenagerie.’

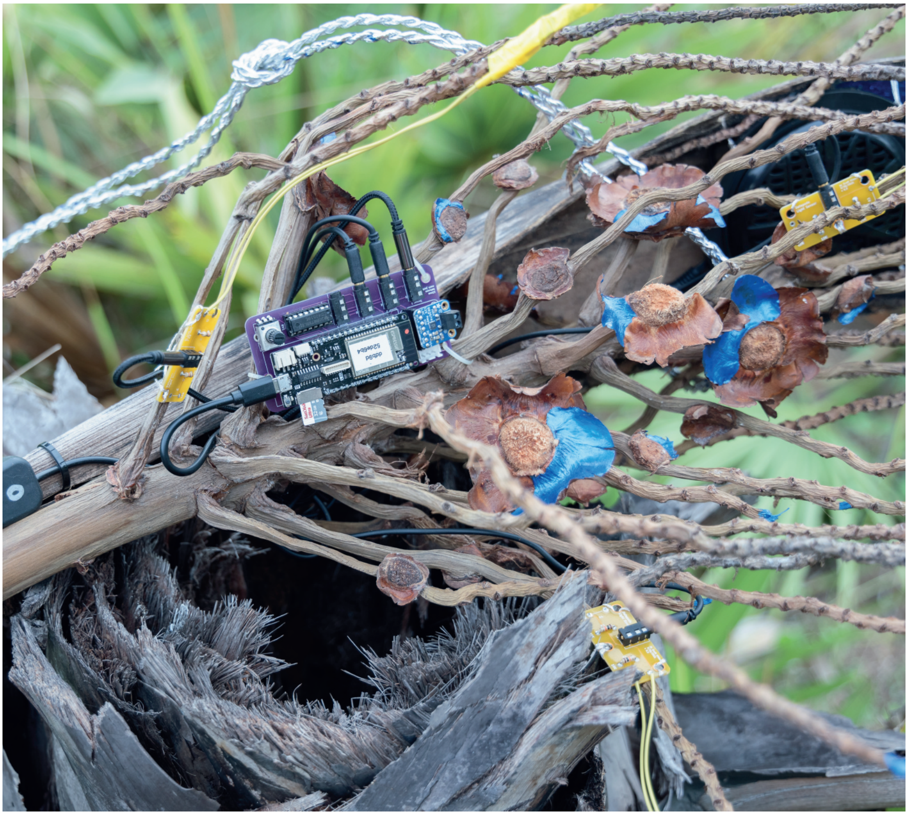


DATAPODS

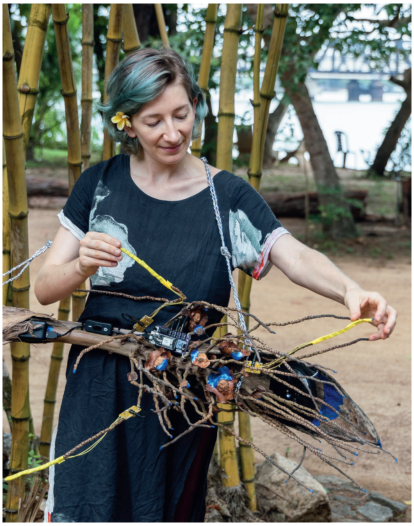
MICHAEL ANG (MANG) AND TEGAN RITZ MCDUFFIE WITH THE DREAMSPACE BIO AND MUSIC LABS

The Datapods are electronic "organisms" that create sonic improvisations from physical sensors in the natural environment.

Each Datapod is a battery powered device running custom software that translates sensor data into sound. They can be easily installed in the field to create a data-based sonification of the environment. The Datapods were originally developed by Michael Ang (Mang) and Scott Kildall for Dinacon 2019 and this edition of Dinacon brings a new collaboration between Mang, Tegan Ritz McDuffie, and the Dreamspace Bio and Music Labs.

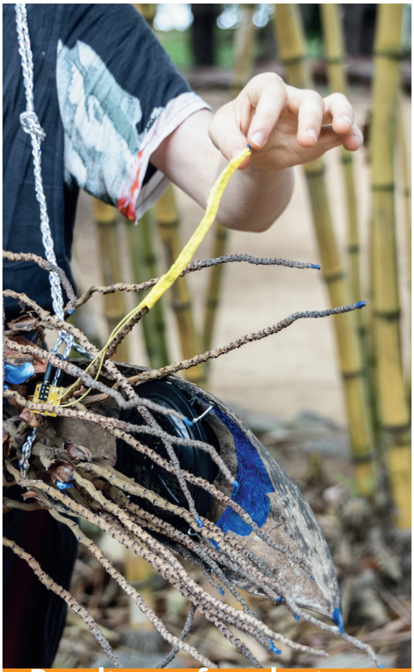


The Dinacon 2022 collaborations yielded three site-specific installations: the Cocolute, the MycoPoke, and the EcoPitcher.



Cocolute with Datapod electronics, coconut inflorescence, and yellow bend sensors

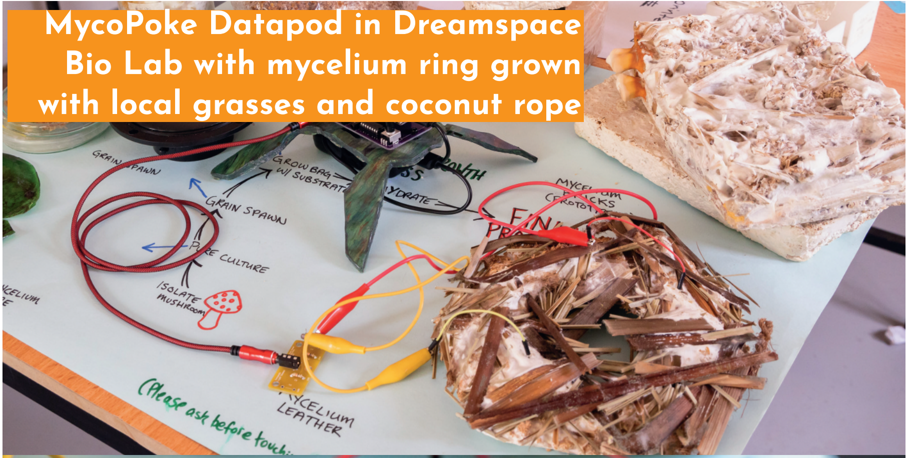
The Cocolute is a new musical instrument made from the inflorescence (flowering stalk) of a coconut tree. The lush growth of the plants in Sri Lanka leads to a constant process of falling leaves and other organic material - the "body" of the Cocolute was found on the ground after it fell from a coconut tree. The flexibility of the fronds suggested the use of bend sensors to activate the sounds in the Datapod. Each of the three bend sensors triggers a different sound (using Arduino code on the Datapod) and the speed of the sound is controlled by the amount of bend applied. The sounds were collected from the local environment: Dreamspacers singing in Tamil while eating street food, the sound of the



Bending a frond triggers a sound and changes its speed loom at a local fabric factory being operated by hand, and Myna birds recorded by the Dreamspace Music Lab. You can carry the Cocolute with you and improvise combinations of two different sounds, or get another person to join to play all three!

MYCOPOKE

The MycoPoke Datapod reacts to changes in electrical conductivity between two metal electrodes, playing sounds faster when the two touched points are more connected. In collaboration with Cris Silva and Pramo Saumyamali of the Dreamspace Bio Lab we grew a

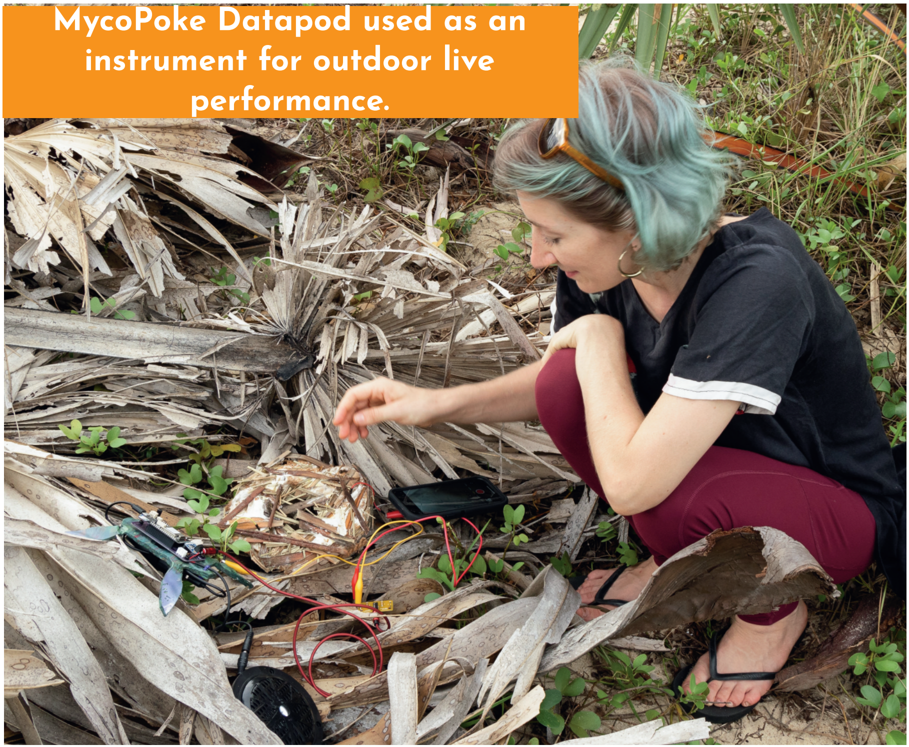

GRAIN SPAWN
GROW BAG W/ SUBSTRATE
GRAIN SPAWN
PURE CULTURE
ISOLATE MUSHROOM
MYCELIUM LEATHER
(Please ask before touch

MycoPoke Datapod in Dreamspace Bio Lab with mycelium ring grown with local grasses and coconut rope

The bare wires inserted into the mycelium sense electrical conductivity between the two points ring of living mycelium using a substrate of grain, coconut rope, and local grass. The body of the MycoPoke's main circuit board was fabricated from recycled plastic bottle caps pressed into sheets made at Dinacon by Paula Te and Andy Quitmeyer.

Mycelium has been observed to create an electrical network as it grows that is likely used for communication. When you poke the MycoPoke electrodes into different points on the ring you can explore the level of electrical connection between different parts of the ring - areas that have been colonized by the mycelium seem to be more connected electrically.

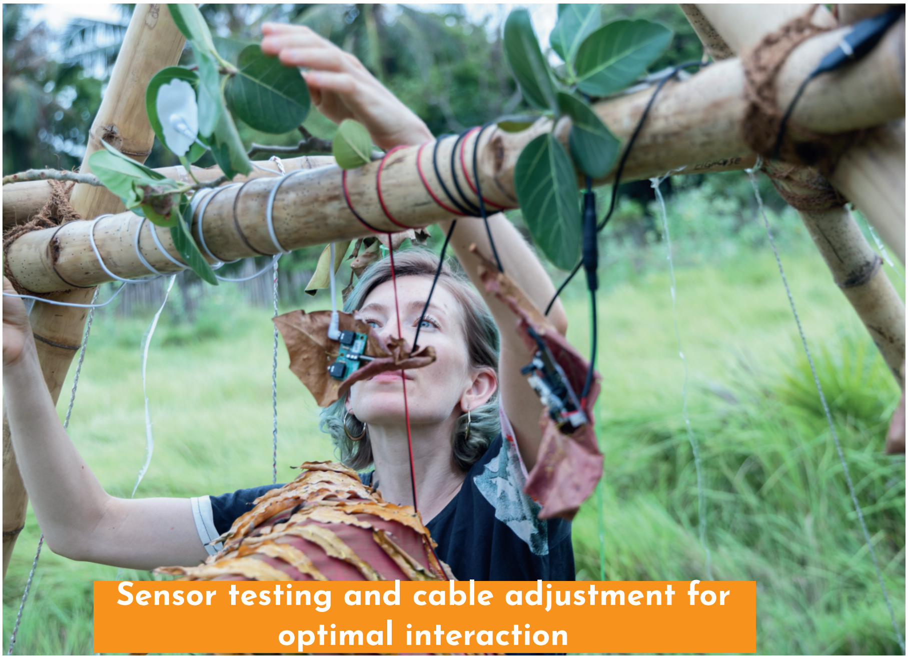
MycoPoke not only reacts to the living activity of the mycelium but acts as a tool for interaction between mycelia and people.



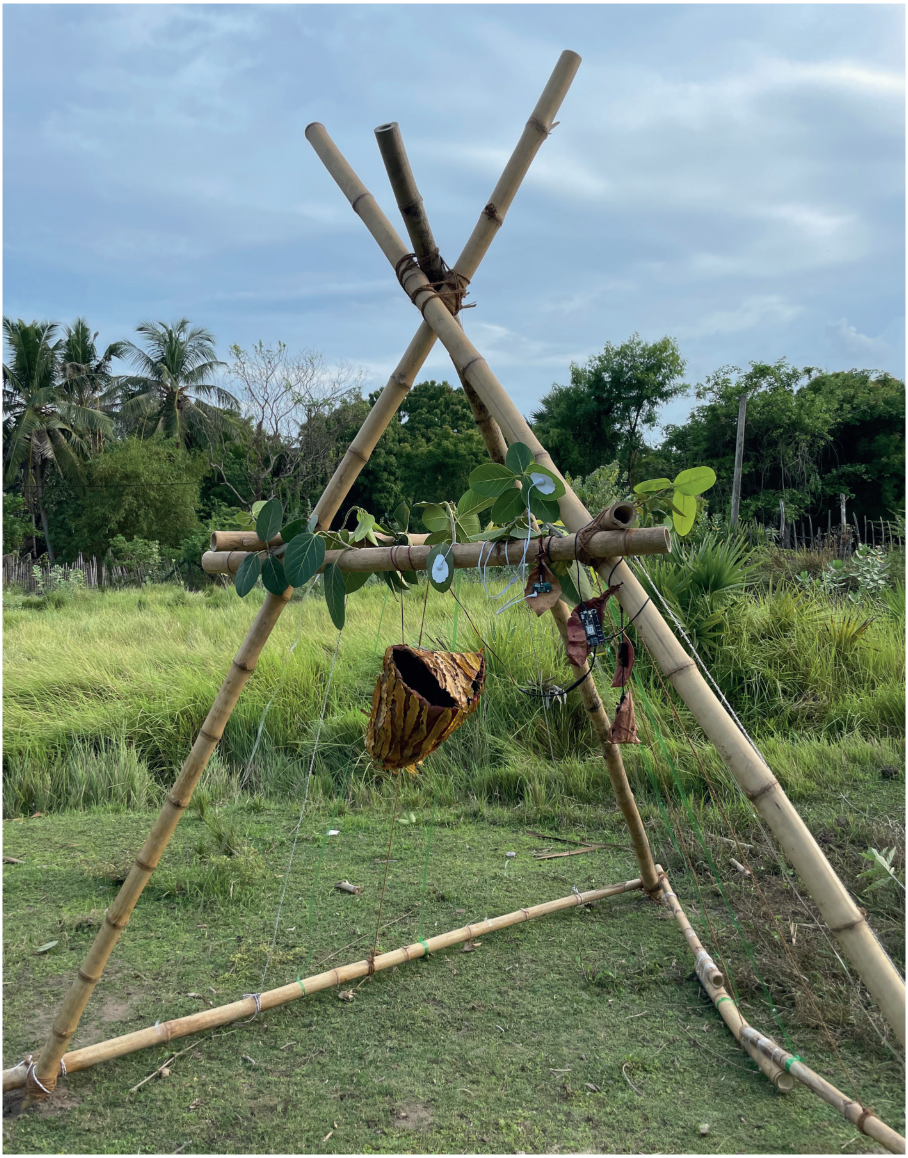
MycoPoke Datapod used as an instrument for outdoor live performance.

ECOPITCHER

The EcoPitcher Datapod senses electrical resistance to modulate a programmed synthesizer sound when sensors attached to leaves are touched. The EcoPitcher was installed on the living fig tree structure by Felix Klee in the pasture across from Dreamspace Hive and included circuit board casings inspired by the natural form of Weaver ants (Oecophylla smaragdina) hanging leaf nests common to the Batticaloa area. Mango leaves in various stages of drying were collected from the base of nearby trees and hand stitched to locally produced fabric to create the unique pitcher shape which simultaneously amplified and muffled the resulting sound.

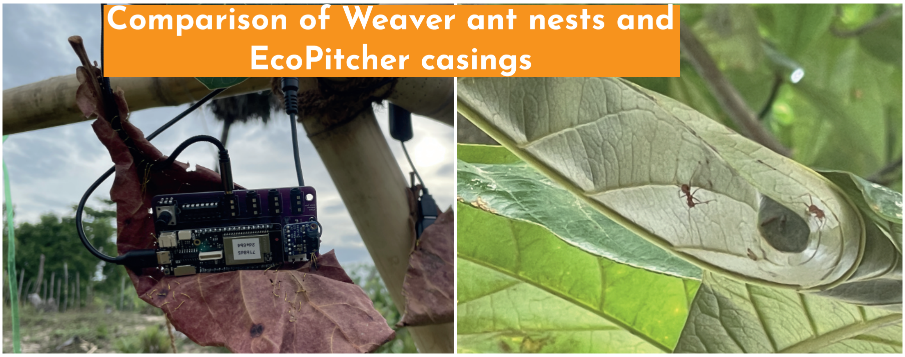

Sensor testing and cable adjustment for optimal interaction

In concert with the two other Datapods, the EcoPitcher created a low, undulating bed of sound on which the frenetic punctuation of the MycoPoke and the clattering urban ambiance of the Cocolute's field



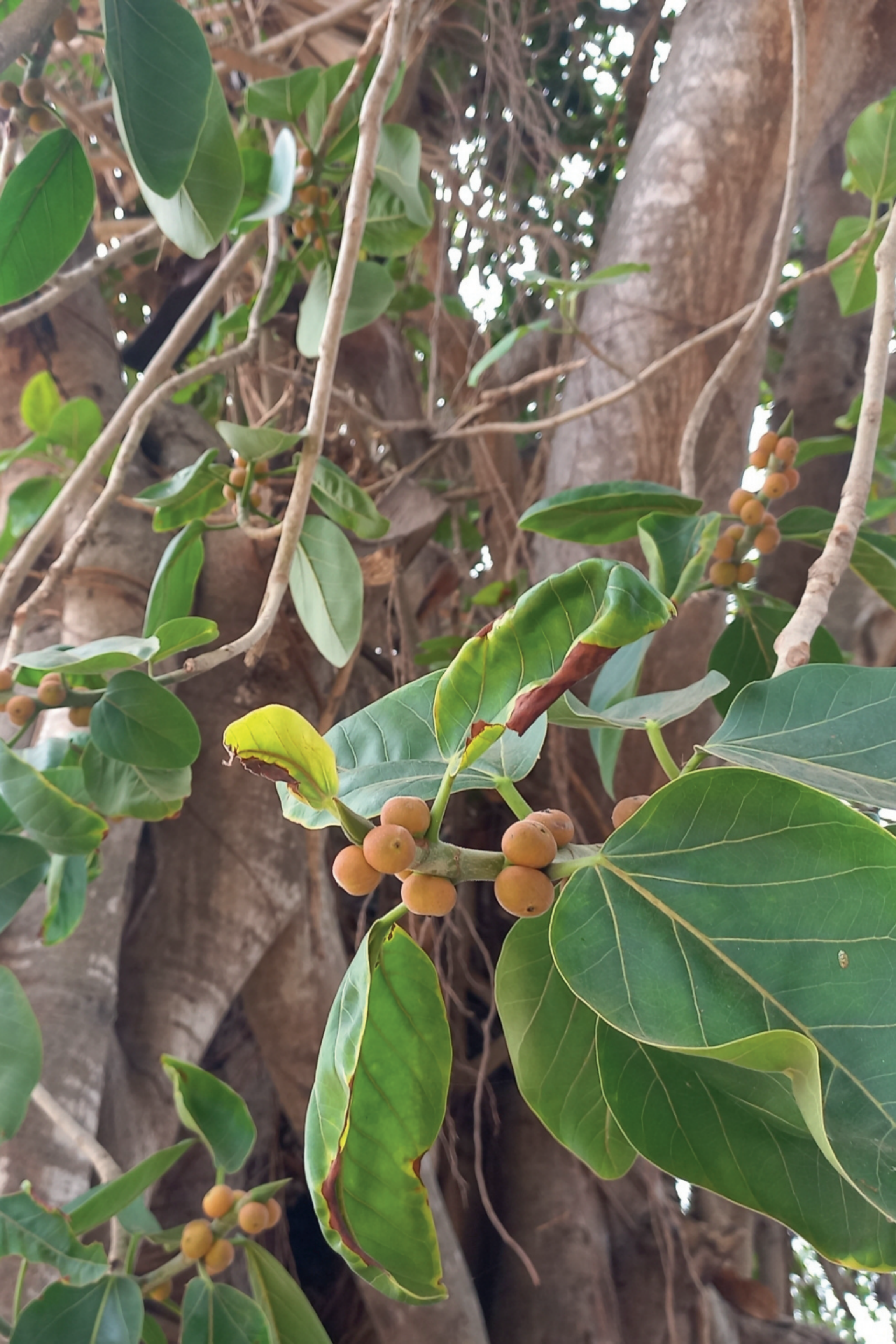
recordings came together in a resonant site-specific experience.

Comparison of Weaver ant nests and EcoPitcher casings



SPECIAL THANKS

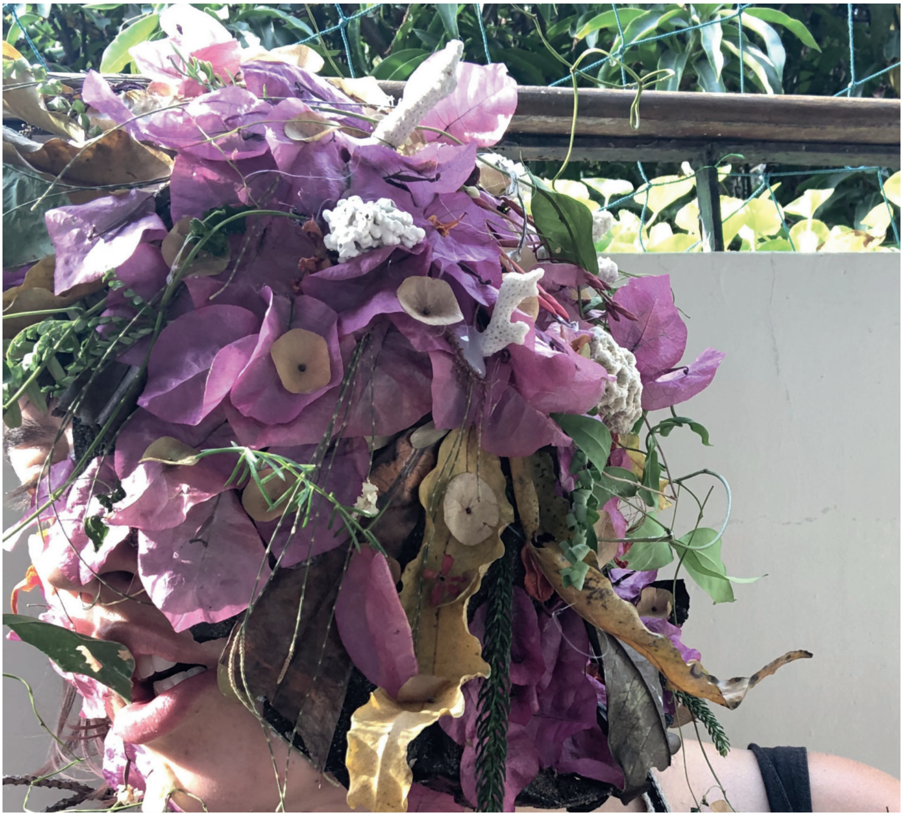
This work was made possible with the contributions and support of Scott Kildall (Datapod circuit board design and code collaboration); Dreamspace Bio Lab and Music Lab (mycelium research and fabrication, and local audio recordings); New York University Abu Dhabi and the Desert Media Art research team; and the incredible organizers and inspiring participants of Dinacon 2022.



DIGITAL MONSTER COLLAGE

SID DRMAY

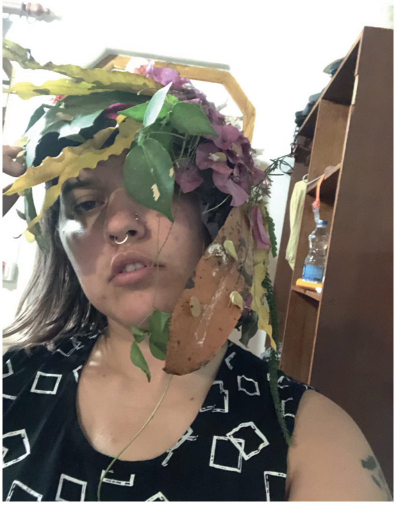
My initial project idea for Dinacon this year was based on wanting to play with ideas of a monster that is controlled by a brain fungus. I thought this would exist as a game of sorts or involved working with Dinasaurs to build different visual experiences with how the monster would look however due to some constraints I ended up being the solo subject.
I was inspired by Madeline Schwartzman's Face Nature projects, seeing all the ways that she uses plants to



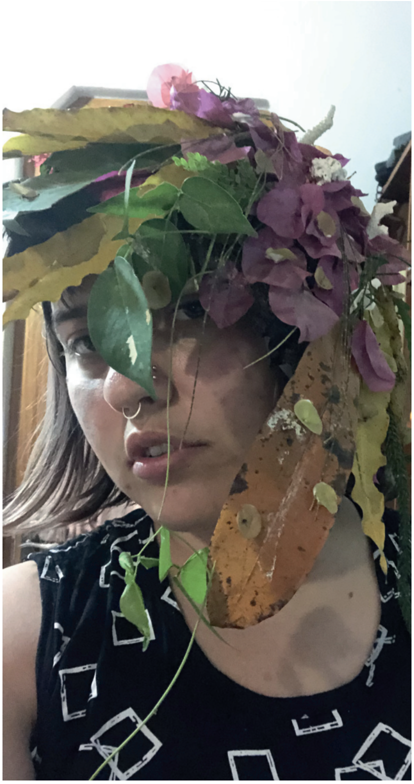
change her face and express herself has been one of my favourite things. Batticaloa is full of the most incredible plants, growing all over in a beautiful chaos. The way we were surrounded by unkempt growth around Batticaloa and maintained growth at Riviera was inspiring.

Wandering through the area I found these bright pink petals that had a soft, paper lantern like texture. I knew I wanted to use them immediately. They maintain their colour so wonderfully as they die, becoming lighter pink but still more vibrant than I've seen other flowers. Their paper-like qualities become more obvious as they dry out, instead of rotting like other flowers do.

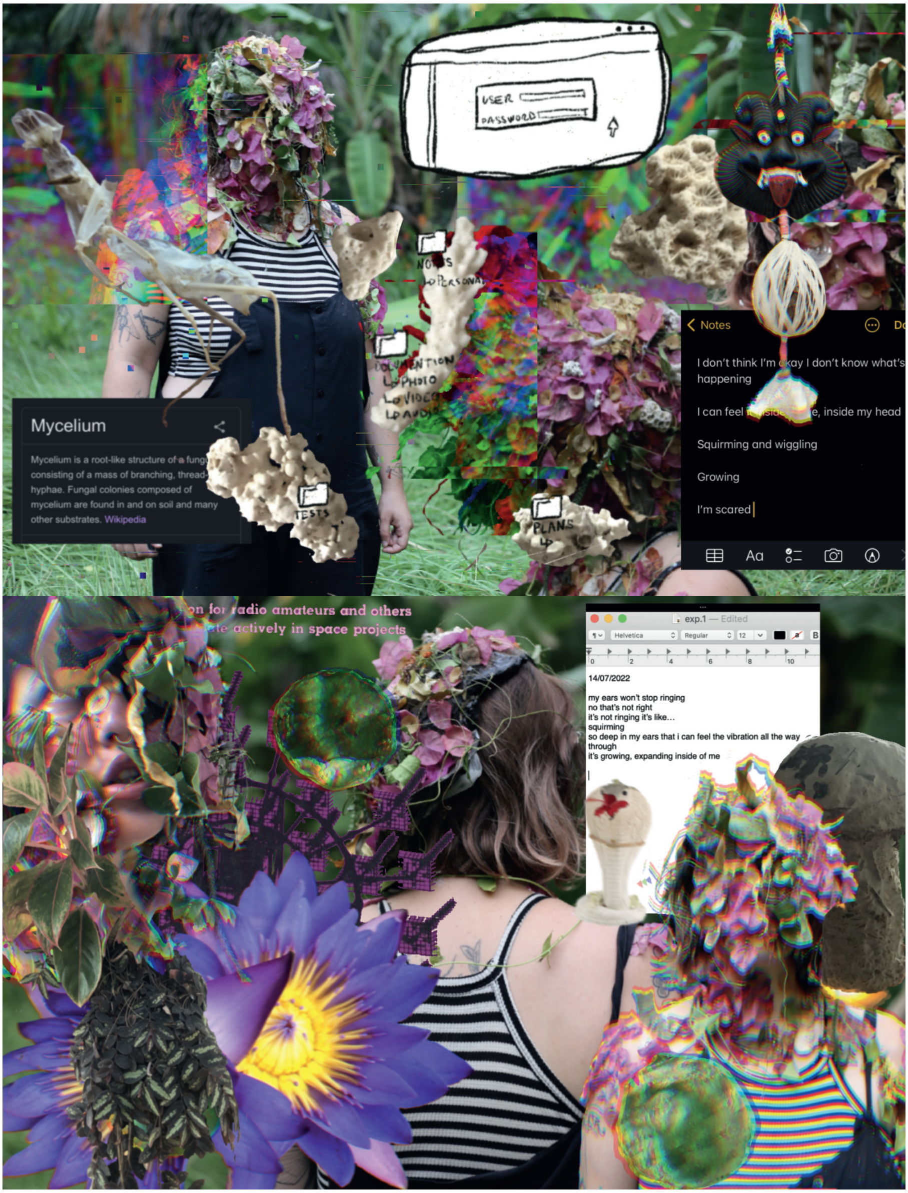
I also utilized turkey tail mushrooms I was able to find near petrified on branches used as fencing outside of some of the homes. I searched for branching pieces of coral on the beach to add further texture and ambiguous origins to the monster. I



Dinacon willl change you.



gathered all the plants, flowers, leaves and coral that I liked the aesthetics of and proceeded to design a headpiece that was the majority of the costume. After that I experimented with a couple iterations of how the monster could look, and found that I really enjoyed using petals to make a scale-like situation down the face that grew with each version.
Making a monster is many things, but especially


USER
PASSWORD
NOTES
↳ PERSONAL
DOCUMENTATION
↳ PHOTO
↳ VIDEO
↳ AUDIO
TESTS
PLANS
on for radio amateurs and others
te actively in space projects
Notes
Aa

Mycelium

Mycelium is a root-like structure of a fungu
consisting of a mass of branching, thread-
hyphae. Fungal colonies composed of
mycelium are found in and on soil and many
other substrates. Wikipedia

I don't think I'm okay I don't know what's happening

I can feel it inside [illegible], inside my head

Squirming and wiggling

Growing

I'm scared

exp.1 — Edited

Helvetica Regular 12

14/07/2022

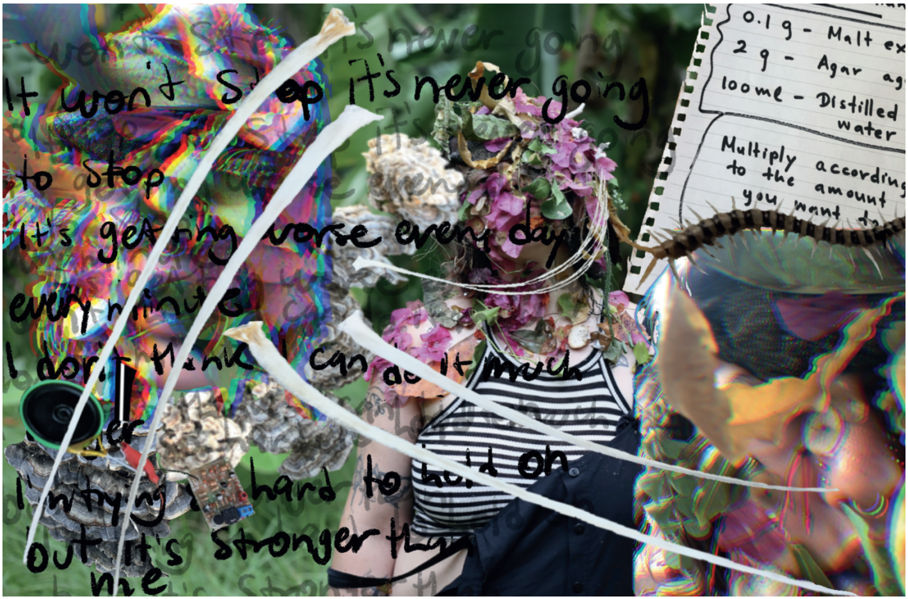
my ears won't stop ringing
no that's not right
it's not ringing it's like…
squirming
so deep in my ears that i can feel the vibration all the way through
it's growing, expanding inside of me

knowing that monsters are not always monstrous. Monsters can be beautiful.

This was something I wanted to utilize. I wanted to show all the beautiful plants and colours that can be found in Batticaloa. Creating tiers of leaves and flowers combined to look like a kind of rippling outer skin. Vines and tendrils swooping down, around the face and body.

My monster is dripping with layers, flowing down the face, on to the neck and down the body. The leaves, petals and mushrooms work together to create a beautiful, monstrous being that is being taken over by the plants around them.

Once I had assembled the monster's look I got photos taken by Luci Dayhew (thanks Luci!!) that I was able to use as the base of the collages. After that I spent time combing through my photos from Batticaloa and pulled elements that spoke to me and arranged them with the monster pictures. The final digital collages can be read as three panels of a story showing the progression of the fungus monster taking over the human brain.


It won't stop it's never going
to stop
It's getting worse every day
every minute
I don't think I can do it much
longer
I'm trying so hard to hold on
but it's stronger than
me
0.1 g - Malt ex
2 g - Agar ag
100 ml - Distilled water
Multiply according to the amount you want to

DINACAFE

SAAD AND TALI *and other dinasaurs*

Saad likes coffee.

Saad finds ways to share coffee with people.

DINACON
DREAMSPACE ACADEMY

Dina Cafe
Tali & Saad, proprietors

DINNERCON 2022 - DREAMSPACE CAFE OVEN

AHAC MEDEN, HANNAH LIONGOREN, HAROLD TAY, ELI, RATHEES

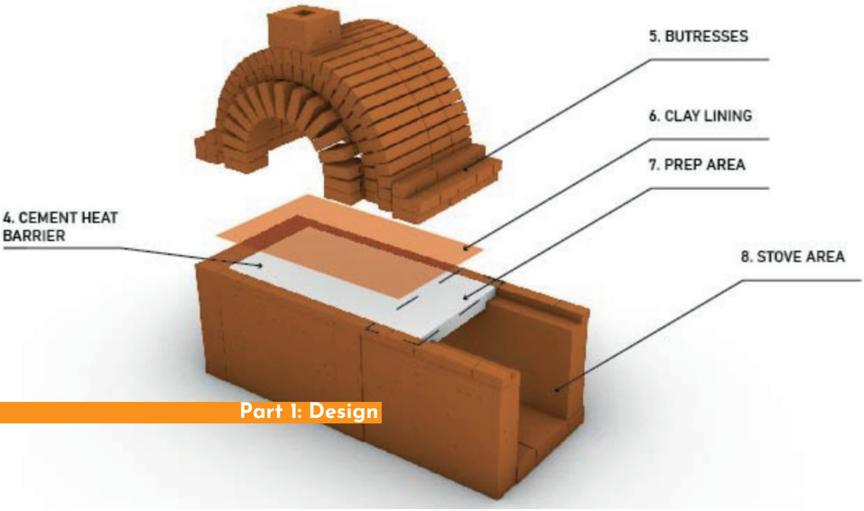
Building a brick oven at Dreamspace

The origins of this project was inspired by creating a gathering space for Dreamspace Academy and Dinacon and maybe eventually the public. This reason for gathering is generating and the sharing of food that will inherently draw folks together in a casual manner. It turns out that Dreamspace has been constructing an ongoing project called a “Dream space cafe” lead by “Space” Bruce who sought to make a proper cup of coffee. The cafe was the perfect host host location for the brick oven as it was conveniently outside and created a potentially good ambiance and accommodation for a crowd of people.

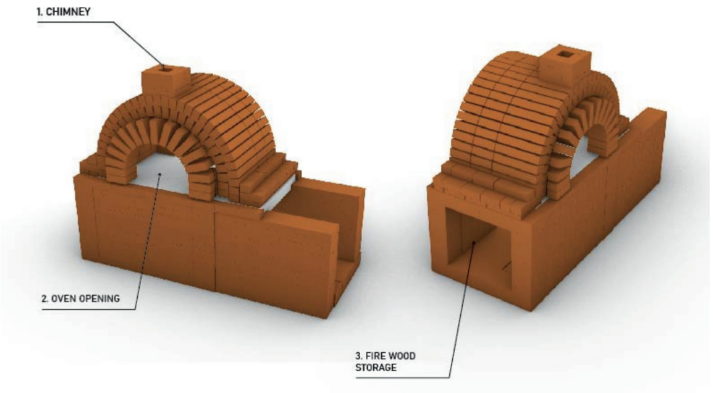
Why a Brick Oven?
Ideally this brick oven can also function as a stove. The oven is designed to make use of materials in the vicinity and also access fire wood that in theory is easily available and a cheaper alternative to gas which is currently a scarce commodity in Sri Lanka. Brick is a common building material in Batticaloa, local mom and pop shops sell bricks. A pizza brick oven is purely incidental. Folks in dreamspace and a number of other locals really like the idea of making pizza. Folks bike for 47 minutes to the closest pizza hut just to get a slice.

Clay was the most difficult material to procure. It took an hour long trip each way to Chenkaladi in Rateesh’s hometown where his father collected the clay from a nearby village.

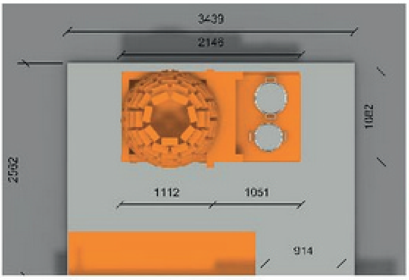
Part 1: Design


5. BUTRESSES
6. CLAY LINING
7. PREP AREA
4. CEMENT HEAT BARRIER
8. STOVE AREA

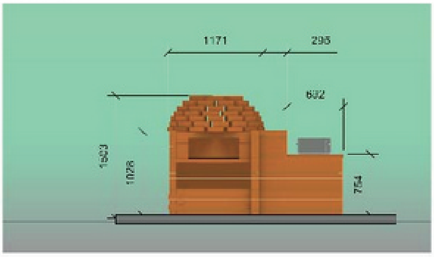
OVEN DESIGN 2


1. CHIMNEY
2. OVEN OPENING
3. FIRE WOOD STORAGE

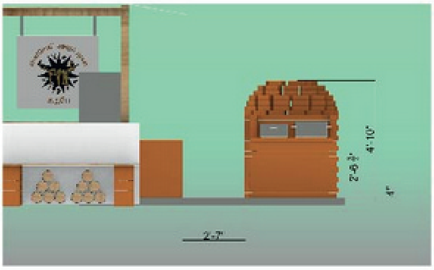
Metric
Top


3439
2146
2562
1082
1112
1051
914

Front


1171
298
602
1563
1028
754

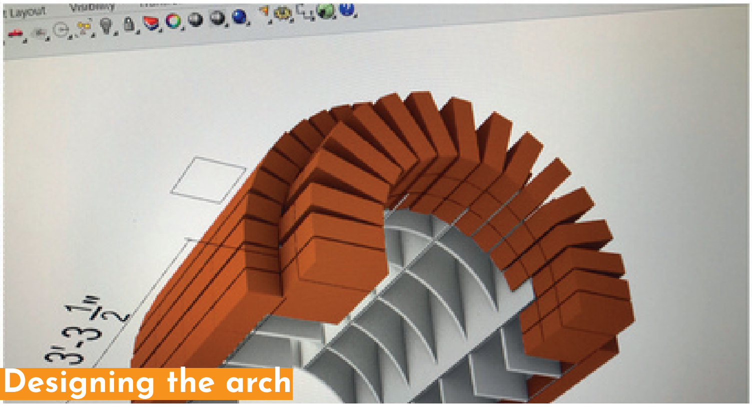
Side



CIVET CAT SPACE CAFE
கஃபே

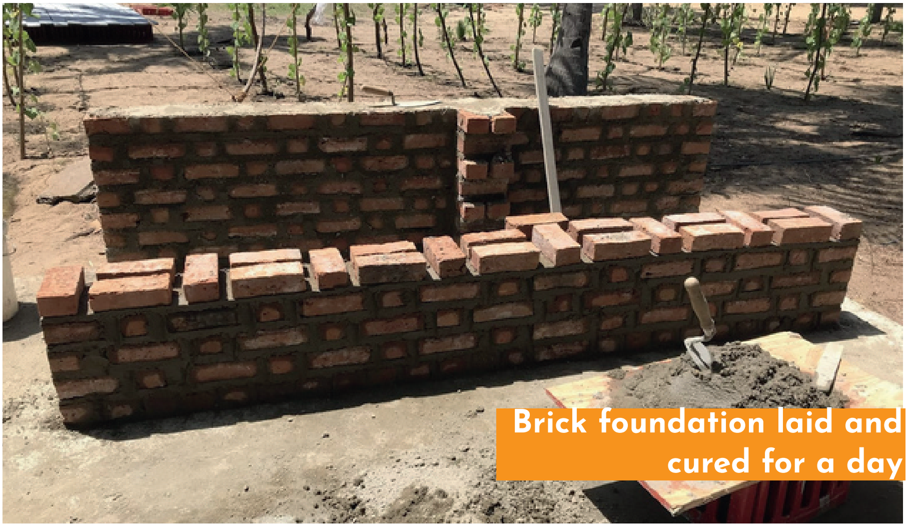
After procuring the materials, we moved on to construction.

Laying the foundation



Designing the arch

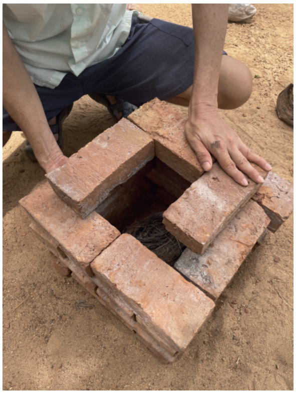
Steel rods for reinforcement

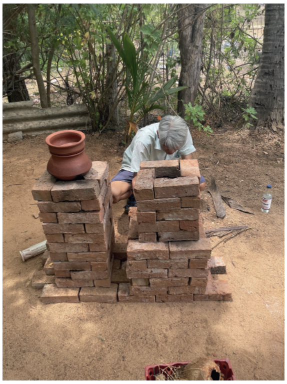


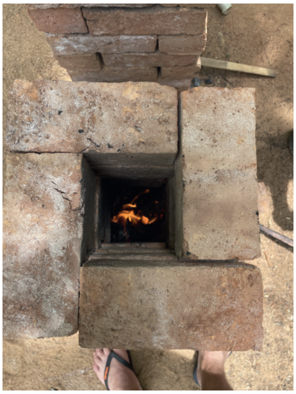
Brick foundation laid and cured for a day

Building the chimney

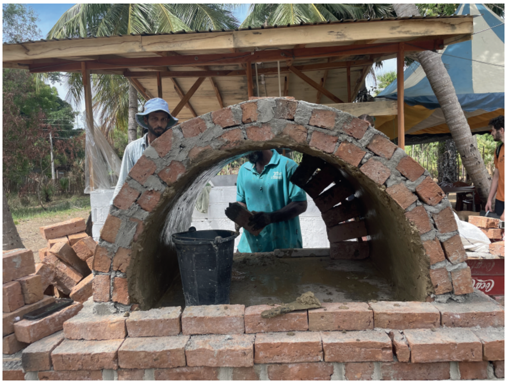
Coca-Cola







Coca-Cola
Coca-Cola
Coca-Cola



Heat barrier installation

BATTICALOA SRI
DREAMSPACE

DINNERCON 2022 - SOURDOUGH

AHAC MADEN, CRISTIAN SILVA (CRIS), PRAMODYA SAUMYAMALI (PRAMO)

Making sourdough to bake in the oven

Making the sourdough starter from local ingredients was the first step. Recreating the process had a couple of unknowns: (1) wheat flour and (2) air.
The second step was preparing sourdoughs with different hydration percentages. Third step anticipated using these different doughs according to their texture and possibilities of the oven (as pizza dough, naan, breadsticks etc.).

OPEN STUDIO
Flow
WHEAT FLOUR
HOUSEHOLD FLOUR
IRON + FOLIC ACID
(Ideal for String Hoppers, Pitt
5 Kg

Preparing the ingredients in the biohacking lab

Traditional sourdough contains a complex blend of bacteria and yeast. The yeasts in sourdough are strains of Saccharomyces exiges, which are relatives of S cerevisiae. These yeasts thrive naturally on the surface of grains, fruits, vegetables, and even in the air and soil. The exact strains of yeast and bacteria will vary depending on the origins of the starter.

The reasons for sourdough is considered superior are breakdown of gluten, natural preservation of bread,sustainability and being more nutritious.

Here in the lab, we made sourdough starter which is a symbiotic community of lactic acid bacteria and wild yeast. Both yeast and bacteria feed on the carbohydrates present in flour when hydrated with water and allowed to ferment.

Sourdough tests

2.0 Material and methods

2.1 Materials

Wheat flour
Filtered water
500 ml glass jars

2.2 Method

Step 1

Starting in the morning or at night,120g of wheat flour was mixed with 120ml of filtered water using a chopstick making sure that flour and water was well mixed together (until it looked like peanut butter). The lid was placed on the jar lightly to keep the moisture in and kept it aside at room temperature for 24-48 hours.

Step 2

After 48 hours, when the active bubbling was observed, ½ cup of the starter was discarded. Then again 120g of wheat flour and 120ml of water was added to the remaining starter in the jar and combined well. Then, it was covered and kept aside at room temperature for another 24 hours.

Step 3

After 24 hours or 48 hours, the starter was checked for active bubbling and if it has started sinking down or liquidy ,½ cup of starter was discarded and the remaining was mixed with 120g of wheat flour and 120ml of water.It was stirred well and again kept aside for another 24 hours.

The above step 3 was repeated 3 times by making sure that the starter was not overfeed and fed only at times of its hungry peaks and reached to its doubled quantity. Finally, the starter which was fed several times was ready for making sourdough bread and that was stored in the fridge for future consumption.
To maintain the starter, the sourdough starter in the fridge was fed with 120g of wheat flour and 120ml of water after discarding ½ of the starter,once every week.

3.0 Discussion

The starter should smell sweet and tangy and if it gives a foul, unpleasant smell, that means the jar used is uncleaned and somehow some other bad bacteria has been introduced to it.

If the starter is not rising as expected, then use ¼ cup of whole grain flour or wheat flour and try to use mineral water like San pellegrino instead of water.

The starter should be fed only at its hungry peak levels which is shown by signs like slidemarks, a layer of liquid at the top of the starter and is liquidy enough to pour out of the jar (at room temperature). This is because overfeeding a starter makes it lethargic.

There are some tips on making sourdough starter and they are as below.

1. TEMPERATURE

It takes a longer time to grow and become active bubbles at cold temperatures.Therefore a warm spot (70-80 degrees) like on the stovetop, with the light turned on, or on top of the fridge or in the oven with the light on, on top of a heating pad (set to low) with a towel in between) can be used for the best results. The starter can be made in a colder home, but it will just take longer- even up to 2 weeks! Hence, it's better to test the temperature of your starter using a thermometer.

2. FLOUR

It is always better to start the batch by using organic whole-grain flour (wheat or rye) because it has more wild bacteria in it than white flour and will get it active and growing sooner. Freshly milled works exceptionally well.

3. WATER

Sometimes chlorine in tap water can inhibit the growth of the starter. Some people leave tap water out, in an open container overnight to allow some of the chlorine to evaporate. Using lukewarm water helps fermentation to start faster. Sometimes bottled water can be overly sterile, so using mineral water (carbonated is OK) is a good option.

4. HYDRATION

Hydration refers to the ratio of water to flour in terms of weight. It is a ratio. For the starter, this is typically at 100% hydration. Meaning if 120 grams of water are used, 120 grams of flour has to be used too. This roughly translates to 1 heaping cup of flour and 1/2 cup water. Feel free to weigh instead of measure if you want to be more precise, or want to familiarise yourself with the consistency.

5. STORING AND FEEDING

When the starter is kept cold, like in the fridge, it doesn't need to be fed as often - only once a week. If it is kept out on the counter, it has to be fed 2 x daily. Cold slows down the fermentation, heat speeds it up.

6. USING

When you need to use your starter for baking bread, feed it 4-8 hours before making bread dough, using it right at peak height or slightly after (even better).

7. Is it necessary to discard the starter?

During the first week, it is the simplest, easiest, fastest and most economical way to create a healthy starter. This is because it has to be fed 2 times its volume. Once the starter is "established" after the first week - then it is not necessary to discard it but can be used in bread baking, pizza dough, scones, biscuits, waffles, sourdough buns, etc.

DINNERCON 2022 - SOFT CHEESE MAKING

AHAC MADEN, CRISTIAN SILVA(CRIS), PRAMODYA SAUMYAMALI (PRAMO), RAJA SCHAAR

Experiments with lime and chewable papain tablets

The idea for making cheese was motivated by two separate and simultaneous activities in the first week of Dinacon: that of building a stove and consequently attempting to make pizza, and also the extraction of the papaya enzyme papain.

Knowledge on how to make fresh cheese with citric acid from lime juice as a coagulant was already present and tested out. The addition of papain demanded

Squeezing limes

additional search of research papers[1] exploring the use of the enzyme as a replacement of generally used rennet.

Cheese is of various types and most common cheese types are soft cheese and spread cheese. Soft cheese is any young or fresh cheese with a high moisture content that makes it soft enough to spread and they are unripened cheese made by coagulating casein (milk proteins) with acid. Cheese spread is prepared using one or more cheeses or processed cheese and sometimes additional ingredients such as vegetables, fruits, meats and various spices and seasonings. These cheese types are made from milk of cows, buffaloes, goats and sheep and formed by coagulation of casein protein in them. Cheese is considered as a source of saturated fatty acids which is good for health and they are valued for its portability, long life, high content of fat, protein, calcium and phosphorus.

Cris preparing the cheese in the biolab

2.0 Objective

Establish know-how on making paneer
Make cheese with easily available ingredients in Batticaloa, Sri Lanka.

3.0 Material and methods

3.1 Materials

Cow milk
Buffalo milk
Lime
Chewable tablets of papain enzyme
Flannel clothes
Stove
Strainer
Metal cooking pot

3.2 Methodology

Pour the milk into a metal pot and heat the milk, bringing the milk to almost boiling stage. Cut limes into two and get the lime juice out of the limes. Once milk is about to boil, pour the lime juice and stir the

milk while it is coagulating. Once milk is coagulated leave the mixture for 10 minutes to settle down. Filter out the cheese whey by using a flannel cloth. Once whey is removed from the cheese, wrap it in a flannel cloth and store it in the refrigerator and consume cheese within 3 to 4 days.

3.2.1. Preparation of Paneer with Cow and Buffalo milk and Lime

Batch 01 - Cow milk paneer

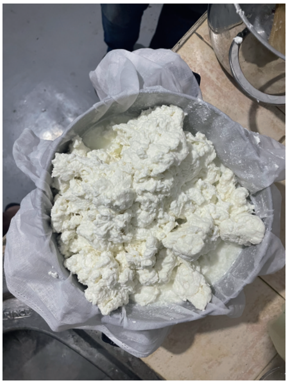
While making the first batch, the above mentioned protocol was followed and 6 limes were used to get the lime juice. Two litres of cow milk were used.

Batch 02 - Buffalo milk paneer

While making the second batch, the above mentioned protocol was followed and 20 limes were used to get the lime juice. 3.5 litres of cow milk were used.

Batch 03 - Buffalo + Cow milk paneer

Straining through the cloth leaves just the cheese solids



While making the third batch, the above mentioned protocol was followed and 20 limes were used to get the lime juice and three tamarinds were added. 1.9 litres of cow milk and 1.6 litres of buffalo milk were used for this batch.

3.2.2. Preparation of Paneer with Cow milk, Lime and chewable papain tablets

Batch 04 - Cow milk + lime + papain chewable tablets
While making the third batch, the above mentioned protocol was followed with mild alterations. 6 limes were used to get the lime juice and 12 tablets of chewable papain enzyme were grinded and powder of the tablets were added along with lime to 2 litres of cow milk.

4.0 Observations

Batch 1: Milk was coagulated slowly at the beginning.
Batch 2: Final texture was not like Mozzarella cheese and a sudden, proper coagulation was not observed.
Batch 3: Coagulation was formed effectively and efficiently. The texture was observed pulp like and clumsy compared to other batches.
Batch 4: The texture was observed to be more different than other batches and it was more stingy. The time taken for coagulation was comparatively higher and the taste was sour compared to other batches.

5.0 Discussion

Cheese provides a valuable alternative to fermented milks and yoghourts as a food vehicle for probiotic delivery, due to certain potential advantages. It creates a buffer against the high acidic environment in the gastrointestinal tract and thus creates a more favourable environment for probiotic survival throughout the gastric transit, due to higher pH. Moreover, the dense matrix and relatively high fat content of cheese may offer additional protection to probiotic bacteria in the stomach.

The colloid of milk contains two major proteins, casein and whey protein. The important source of protein to make cheese in the milk is the casein component, which the form of casein micelle can be coagulated by adjusting the pH of milk. But, this coagulation process is mainly generated by the surface interaction between micelles which are caused by the surface charge of micelles near to isoelectric charge. So, the formation of cheese products by pH controlling is considered to have no good texture. Based on the enzymatic reaction of casein protein molecules, the coagulation process of milk to cheese can be preceded by a coagulation agent of a specific enzyme. The performance of papain enzyme can be used to coagulate casein micelle in the appropriate condition. The milk clotting time is inversely proportional to the amount of coagulant incorporated. The lowest amount of coagulant used gave a cheese with the flavour and colour better than cheeses obtained with a significant amount of coagulant. However, they are better in terms of their texture and firmness.

When the pH is in the range of 6.0–6.7 the coagulation of milk is faster, and the firmness of cheese is higher. Cooking temperature in the cheese vat influences moisture removal from curd during cheese making. Differences in moisture content could have a significant impact on soft cheese functionality. Thus, differences in cooking temperature may affect chemical composition of cheese that may cause differences in proteolysis and functional properties of soft cheese.

In the first batch, the milk was coagulated but at the initial stage it was difficult because we didn't know when to add lime to milk and the team figured out its best to add lime juice before milk reaches the boiling stage while heating. In the preparation of the second batch, the final texture was not like the Mozzarella which the team expected to have. However, it rapidly coagulated when lime juice was added. The third batch was formed well and the coagulation was faster and efficient. The texture was pulp like and was coagulated faster than other three batches. In the fourth batch, the texture was different and felt and looked much more like sticking milk powder compared to other batches. Further, the taste had a sour taste than other batches. The reason for the different texture and taste is probably the other ingredients which are presented in chewable papain tablets.

In next iterations of this project, every ingredient needs to be measured precisely and temperature and pH of the milk should be measured at each step of the process. Measuring the milk density could be useful to gain more insights. Once the cheese is made, the weight of each cheese batch should be recorded. Weight of the milk that used to make cheese needs to be measured before making cheese. In order to figure out how to effectively coagulate most of the milk casein into cheese, recording the weight and density of cheese and milk will be helpful. Further, experiments are needed to explore the possibility of using milk whey to make other food products.

[1] Papain Enzyme and Lemon as Coagulants in Cottage Cheese, Optimization of Papain Enzyme Utilization in Non-Rennet Cream Cheese Production

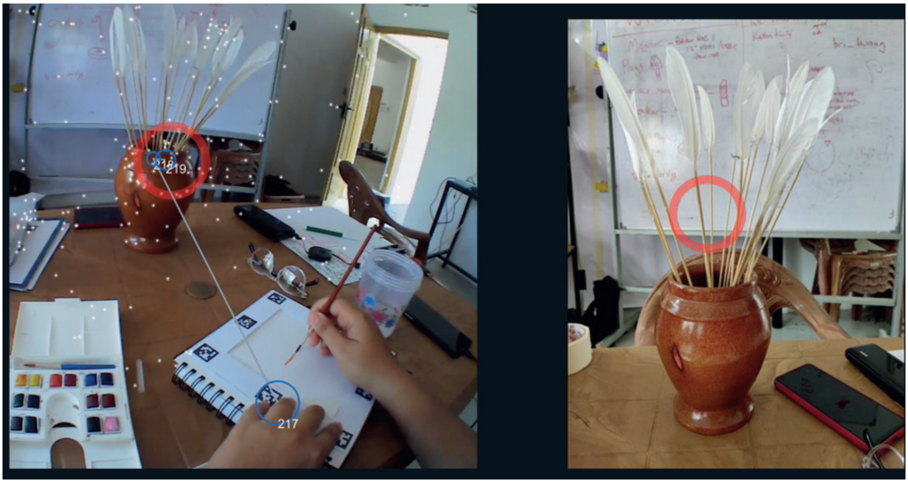
DINACON
2022

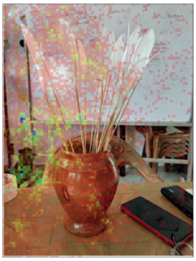
EYE-TRACKING DRAWINGS

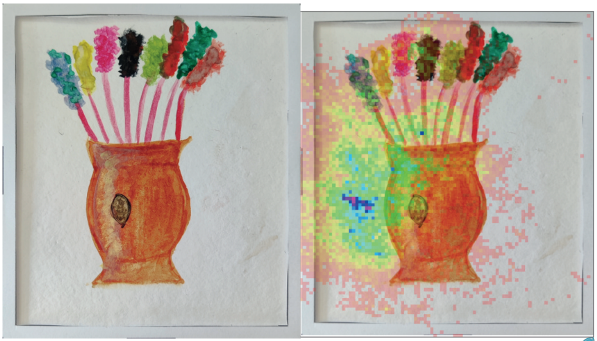
HANNEN WOLFE

Tracking eye movements to find where artists are looking while drawing

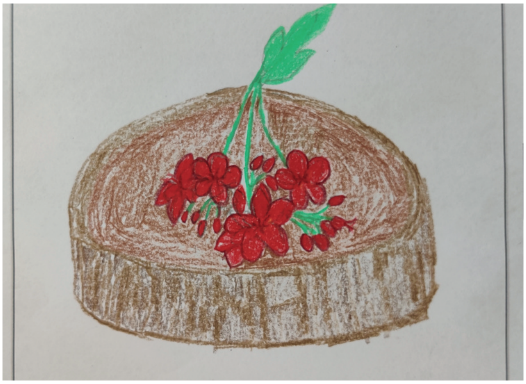
Hannen Wolfe collected data on where over 20 DreamSpace hive bees, volunteers, and dinosaurs looked while they were drawing for a generative art project. They used eye-tracking glasses with 3 cameras to record where the artists were looking (world view) and each eye's movement. The videos were then analyzed to calculate where the artist was looking. Small black and white images (fiducial markers) are on the edge of the artist's page so that the computer could

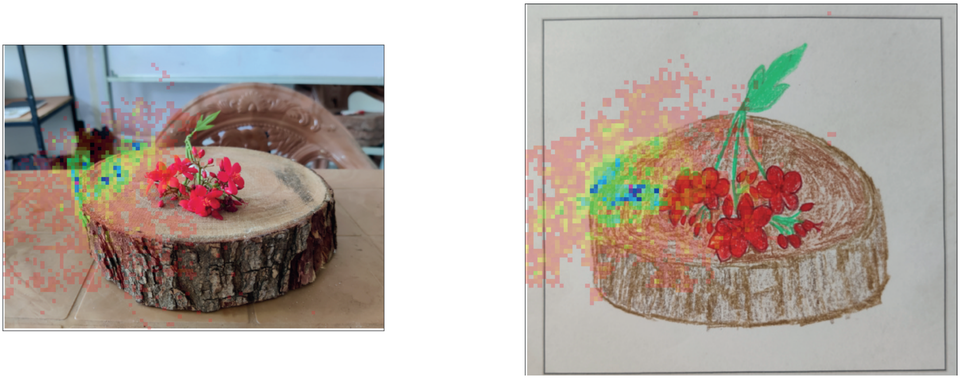




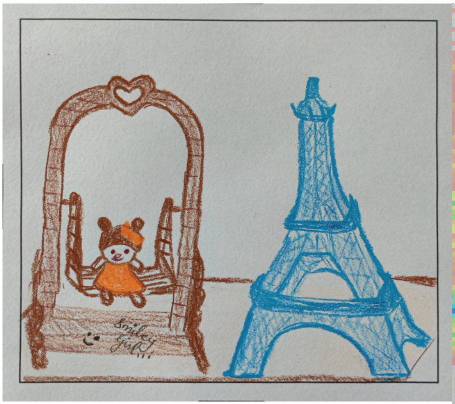


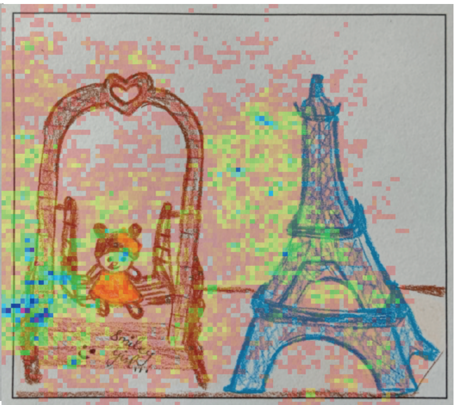
track changes to the drawing or painting. A video scan of the objects were used to register when the artist looked at the object they were drawing. Currently they are working on cleaning the data to account for errors in data collection and exploring different ways to visualize the data. Once the data has been processed, they will create a generative digital artwork based on the data.

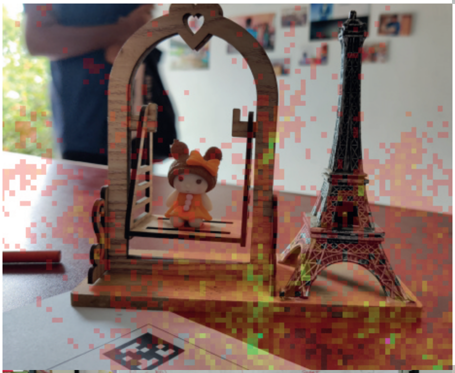


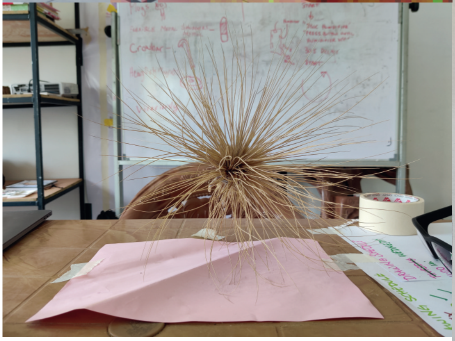


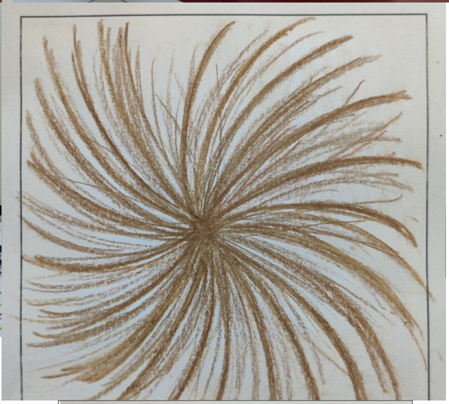
Heat maps of where people looked when they were drawing. Each session produces 2 heatmaps that are overlaid on the drawing and a photograph of the object(s).

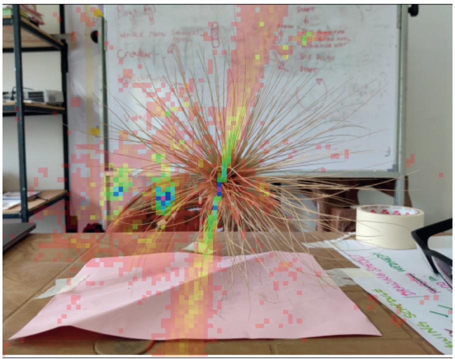

Smiley girl!!

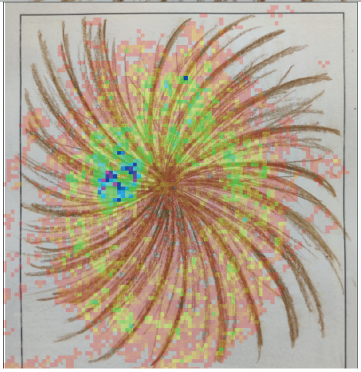


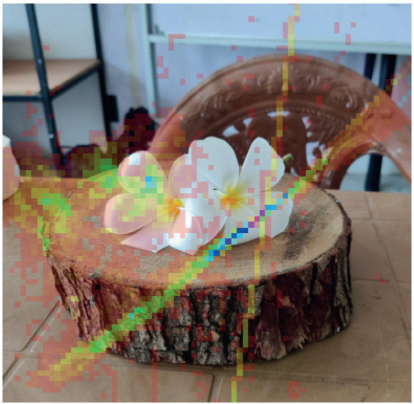
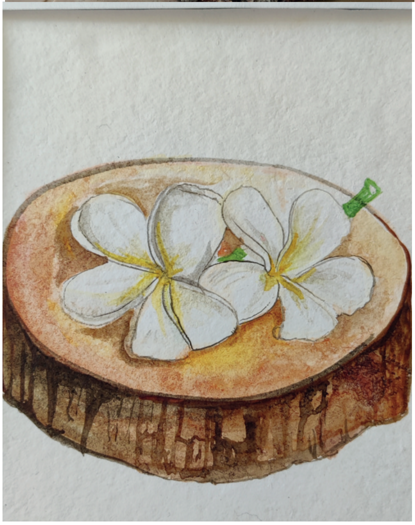
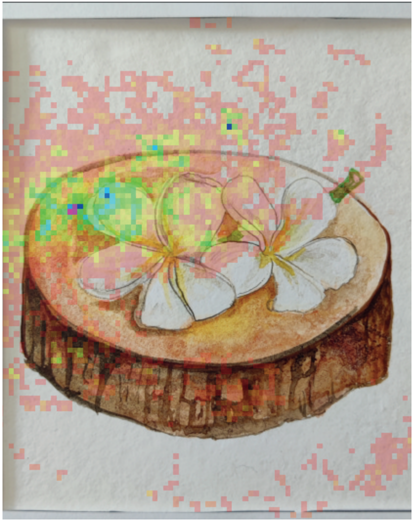
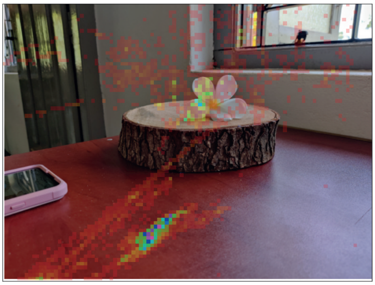


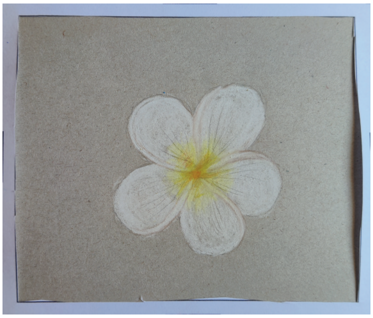
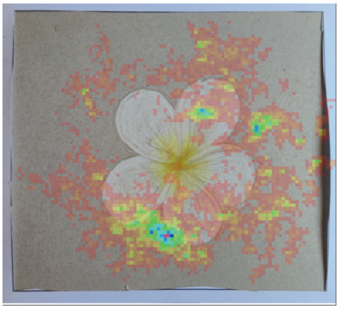


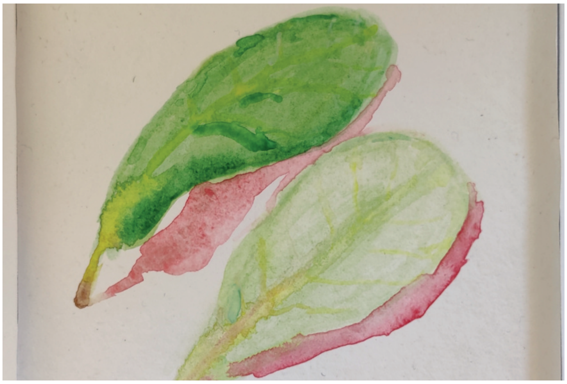


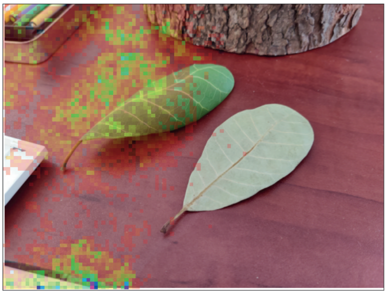


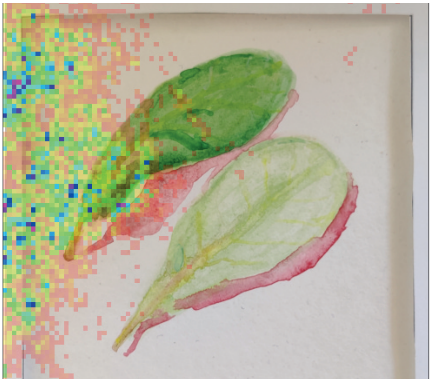


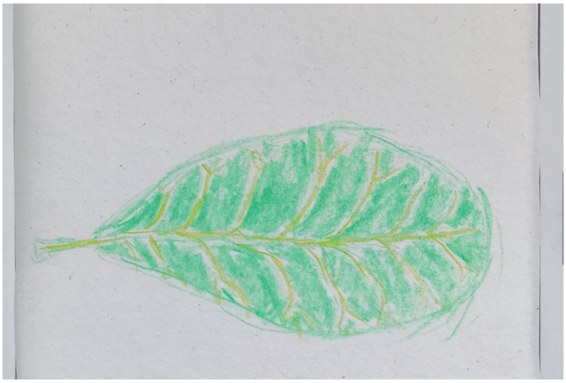





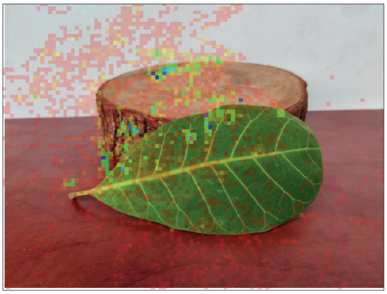



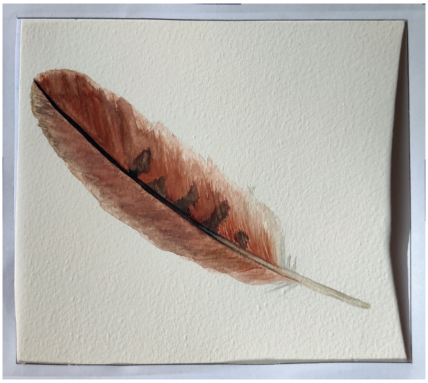


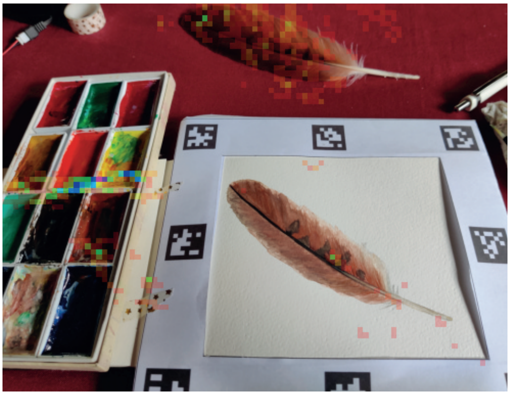


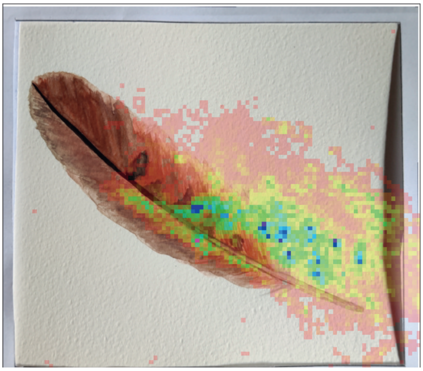


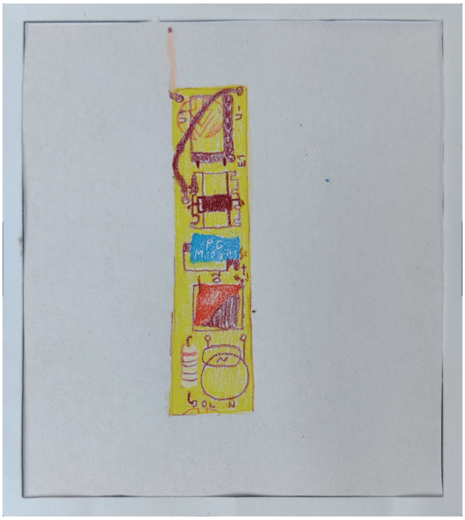


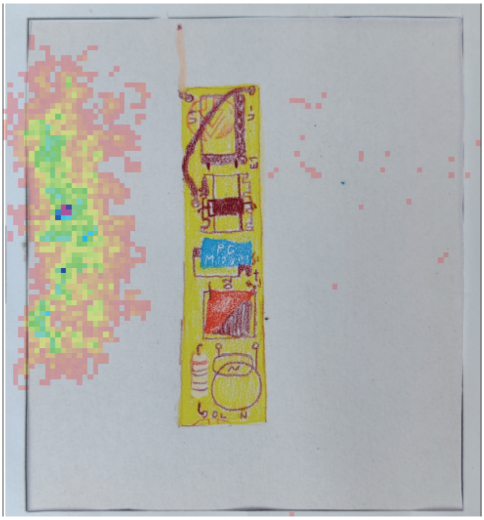












FIG, FICUS, FIGHOUSE!

FELIX E. KLEE

Our objective is to research fig trees as a construction material in Batticaloa and other regions of similar subtropical climate. Planted on a scaffold, fig trees let down aerial roots, which are directed over an inhabitable structure. Once the roots anchor into the ground, the trees gain access to water and nutrients. Mechanically, the roots secure the structure against forces of nature. As the individuums inosculate, they form one organism. In contrast to a structure from

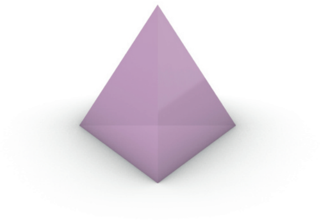
photo by Michael Ang

dead wood, which rots in humid climate, a living structure is able to fend of pathogens. It adapts to the environment and grows stronger over time.

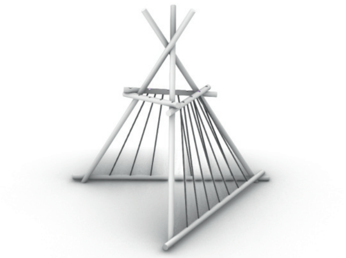
With the scaffold in place, the structure has use from day one. After years of growth, the scaffold is not needed anymore. It may be removed or left to rot. What remains is a self-sufficient living house. If regularly pruned and properly maintained, it will keep its purpose. Otherwise, it will go back to nature. In either case, not only have we helped remove carbon from the atmosphere, we have also created a small ecosystem.

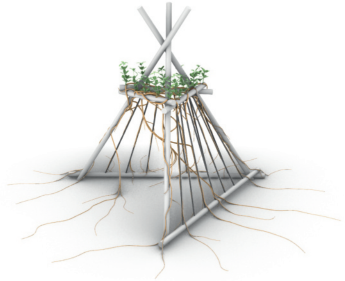
Inspiration is drawn from the living root bridges in India's Meghalaya region and from recent research, especially in the field of Baubotanik.

For Dinacon, a structure was needed that is simple to set up, and that is easy to maintain and possibly to replicate and improve upon. With bamboo

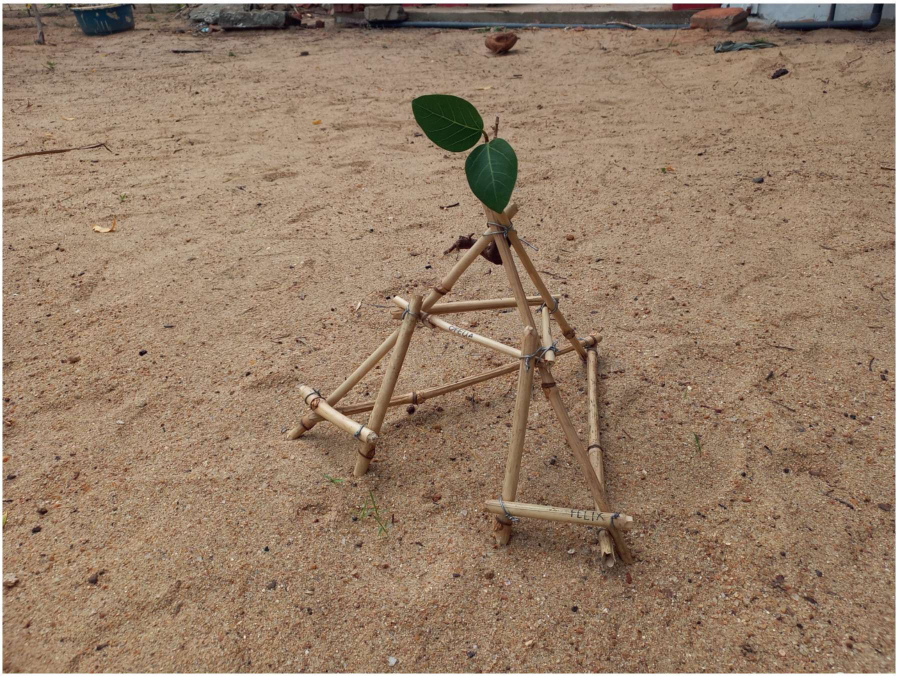


Early Designs

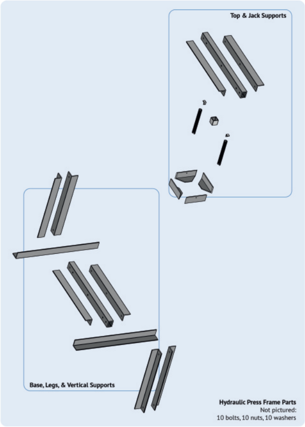


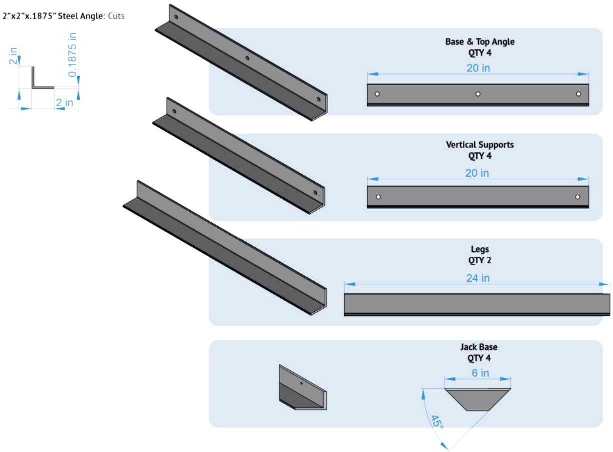


readily available, and with experience of lashing, we decided on a tent like structure in the shape of tetrahedron. It provides shade for sitting inside.



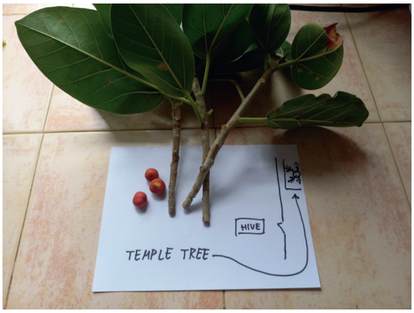
On July 27, using small bamboo sticks and left-overs of metal wire, a simple model was made to get a feel for the structure and how it would be assembled.


Top & Jack Supports
Base, Legs, & Vertical Supports
Hydraulic Press Frame Parts
Not pictured:
10 bolts, 10 nuts, 10 washers


2"x2"x.1875" Steel Angle: Cuts
2 in
0.1875 in
2 in
Base & Top Angle
QTY 4
20 in
Vertical Supports
QTY 4
20 in
Legs
QTY 2
24 in
Jack Base
QTY 4
6 in
45°

On July 22, Felix organized a workshop at the Bio Lab. First we obtained cuttings and seeds. Afterwards, under the guidance of the Bio Lab's guardian Cris, and with advice from Subair, we prepared the collected material in jars with diluted coconut water. On July 28, Cris swapped out the water because it started to ferment. The cuttings and seeds are under observation. So far, they have not been used for construction.

BioLab workshop


HIVE
TEMPLE TREE

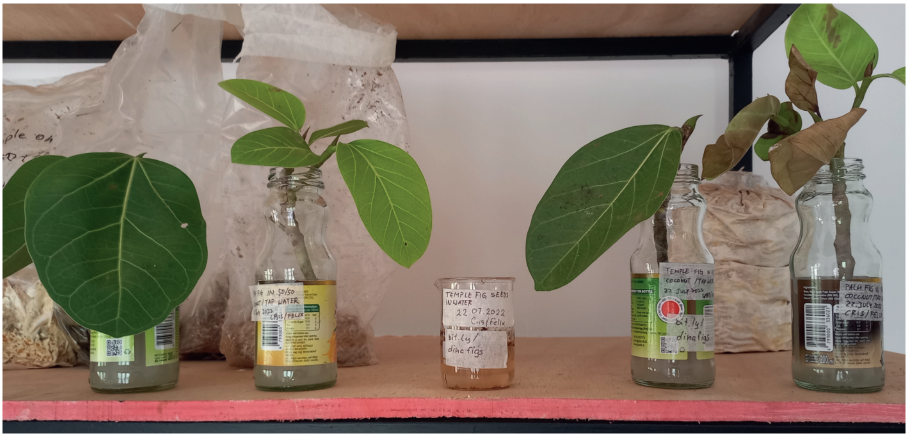
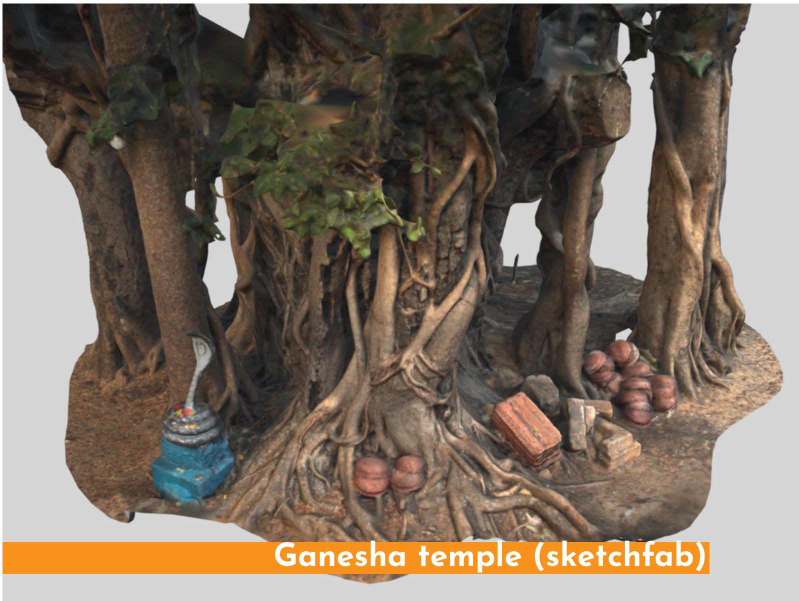
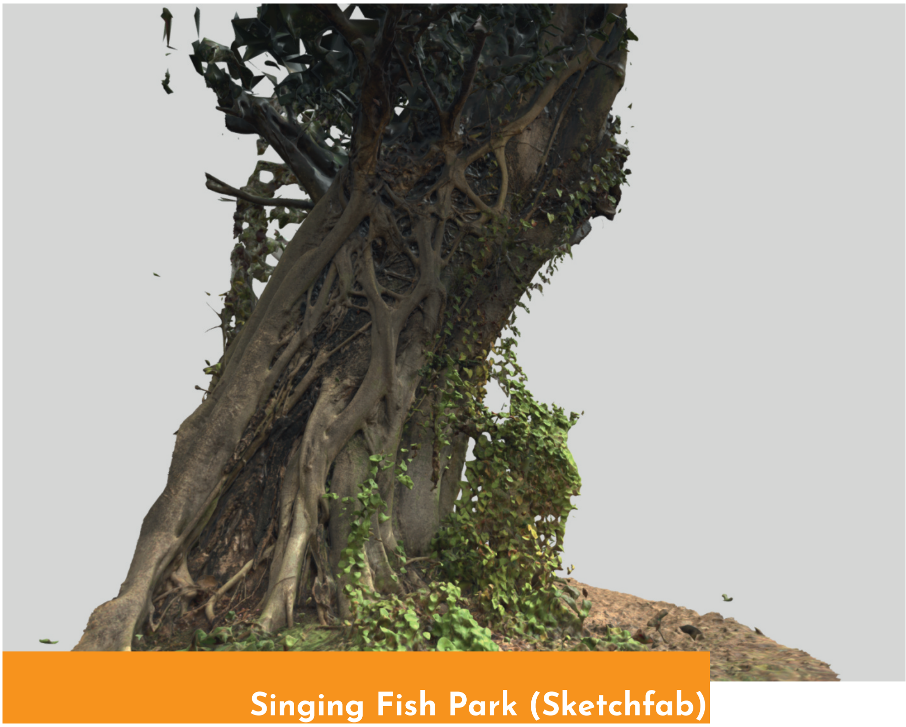


FIG IN 50/50
/TAP WATER
2022
CRIS/FELIX
TEMPLE FIG SEEDS
IN WATER
22.07.2022
Cris/Felix
bit.ly/
dina figs
TEMPLE FIG
COCONUT /TAP
27 JULY 2022
bit.ly/
dina figs
PALM FIG
COCONUT/TA
22.JULY.2022
CRIS/FELIX

The trunks of two trees were digitized using photogrammetry:



Ganesha temple (sketchfab)

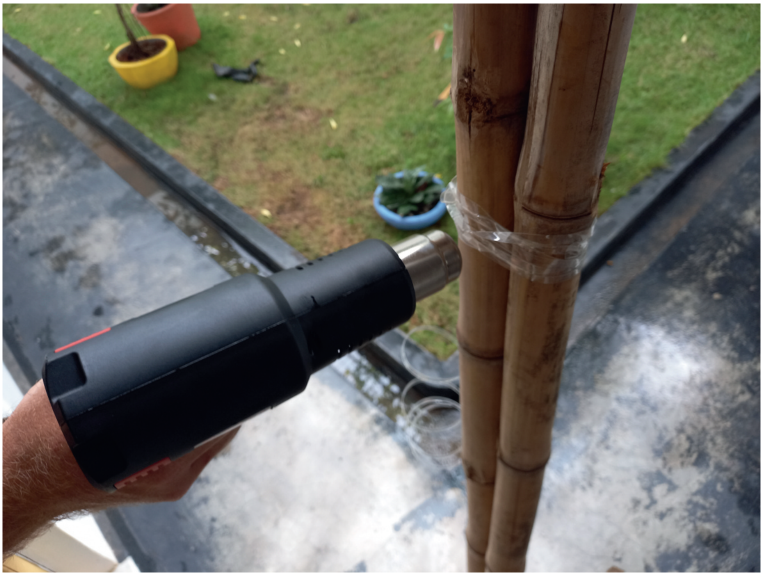


Singing Fish Park (Sketchfab)

After an introduction during Ricardo’s July 20 Bioblitz workshop, Dinasaurs uploaded observations to iNaturalist. All fig trees used in the project appear to be of the species Indian banyan, also known by its scientific name ficus benghalensis. Observations by tree location:
Mamangam temple compound
DreamSpace Hive inside
DreamSpace Hive outside
Ganesha temple

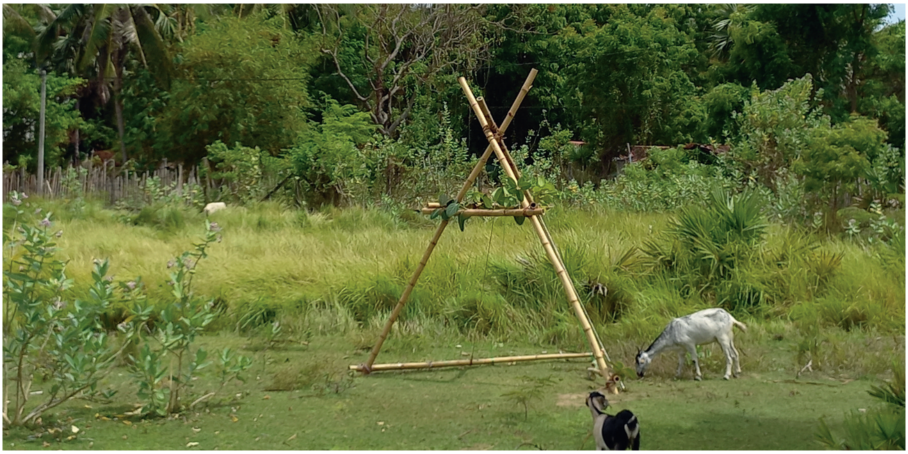
Figs and cuttings were obtained from fig trees in and around the DreamSpace Hive, including the Ganesha temple just outside the gate. Bamboo was provided by

Initial Assembly with Upcycled Materials



Thava, the owner of the adjacent Riviera Resort, home of Dinasaurs. Asides from coconut rope, we recycled PET strings cut from bottles. Andy showed how these can be used to create tight lashings when shrunk with a heat gun.

The site is across the dirt road from DreamSpace Hive. On July 29, we dug holes using a spade, then cut the bamboo with a jig saw. A tetrahedral base structure was erected and lashed with expertise from Ana, Dashan, and Kiri. The next morning, we started by preparing pieces of bamboo to be used as planters. Jeroushan drilled holes, one for each set of trees. Once the planters were in place, T. Janson, the DreamSpace gardener, filled each hole with a mix of soil and sand. We inserted fresh cuttings as well as a few ripe figs. To guide the roots to form a wall-like structure, we strung ropes and strings of recycled PET on two sides of the structure. The third side remains open for entry.



Already on the same day, use has been found for the structure. Michael Ang set up one of the data pods, he and Tegan had created at Dinacon. Sensors are connected to the fig leaves. A sound scape emerges from a speaker.

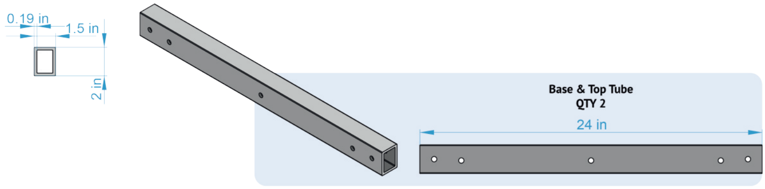
If all goes well, in a few years, the bamboo scaffold is overgrown by figs. The little house provides shelter for members and guests of DreamSpace Academy, and for the many animals visiting every day.

If it fails, then we will learn from mistakes! Perhaps the plants need a better controlled environment, they need more maintenance, or the structure is not strong enough to withstand winds, cows, and ants.

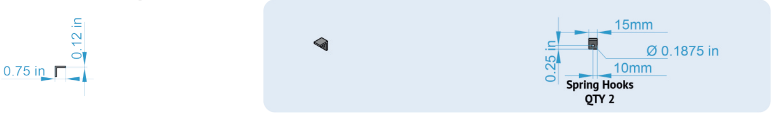
In any case, we should think about where to go from here. For example, how can plants provide sufficient cooling for us to better enjoy the indoors? Can we use the nearby ocean for cooling? What about Mangroves, could they be used instead of figs?

Eventually, we may find ways to transform and create ecosystems to give us a comfortable and modern life, without destroying nature. Let’s experiment!

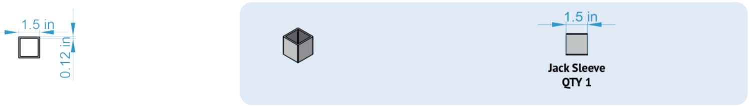
2"x1.5"x.1875" Rectangular Tube: Cuts


0.19 in
1.5 in
2 in
Base & Top Tube
QTY 2
24 in

0.75"x0.75"x0.12" Steel Angle: Cuts


0.12 in
0.75 in
15mm
Ø 0.1875 in
0.25 in
10mm
Spring Hooks
QTY 2

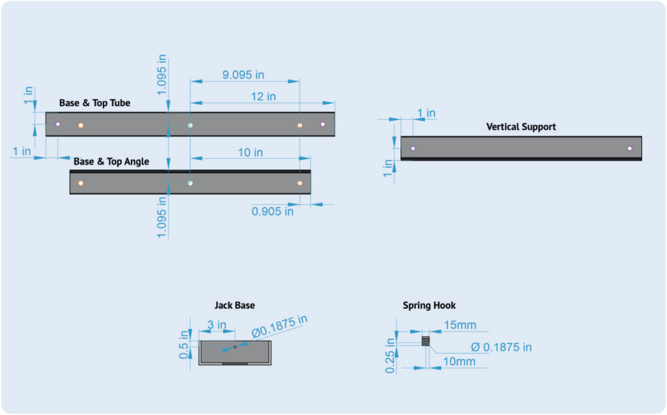
1.5"x1.5"x0.12" Square Tube: Cut


1.5 in
0.12 in
1.5 in
Jack Sleeve
QTY 1

FURTHER READING

The DinaChronicles, our weekly newspaper at DinaCon
July 02/03 2022 fig workshop at Lancetilla botanical garden, Honduras, run by Jean, Soroush, and Felix
Shanahan: Gods, Wasps and Stranglers (ISBN: 9781603587150)
Ludwig, Middleton, Gallenmüller, Rogers, Speck: Living bridges using aerial roots of ficus elastica – an interdisciplinary perspective
Reames: Arborscultpure (ISBN: 0-9647280-8-7)
de Bruyn, Ludwig, Schwertfeger: Lebende Bauten (ISBN: 978-3-643-10483-0)
Ludwig: Botanische Grundlagen der Baubotanik und deren Anwendung im Entwurf
Block: Wir pflanzen eine Laube (ISBN: 978-3-936896-33-6)
Watson: Lo-TEK (ISBN: 978-3-8365-7818-9)
Middleton, Shu, Ludwig: Representing living architecture through skeleton reconstruction from point clouds
C.Y.Jim (in particular his publication on ficus walls in Hong Kong)
Tongliang Great Banyan
Growing Strangler Figs in Coconuts. Ideation of Carbon-Negative, Living Infrastructure

Holes
All holes unless specified: 0.5" diam
Holes color coded to show mates


1.095 in
9.095 in
12 in
1 in
Base & Top Tube
1 in
Base & Top Angle
10 in
0.905 in
1.095 in
1 in
Vertical Support
1 in
Jack Base
3 in
Ø0.1875 in
0.5 in
Spring Hook
15mm
Ø 0.1875 in
10mm
0.25 in

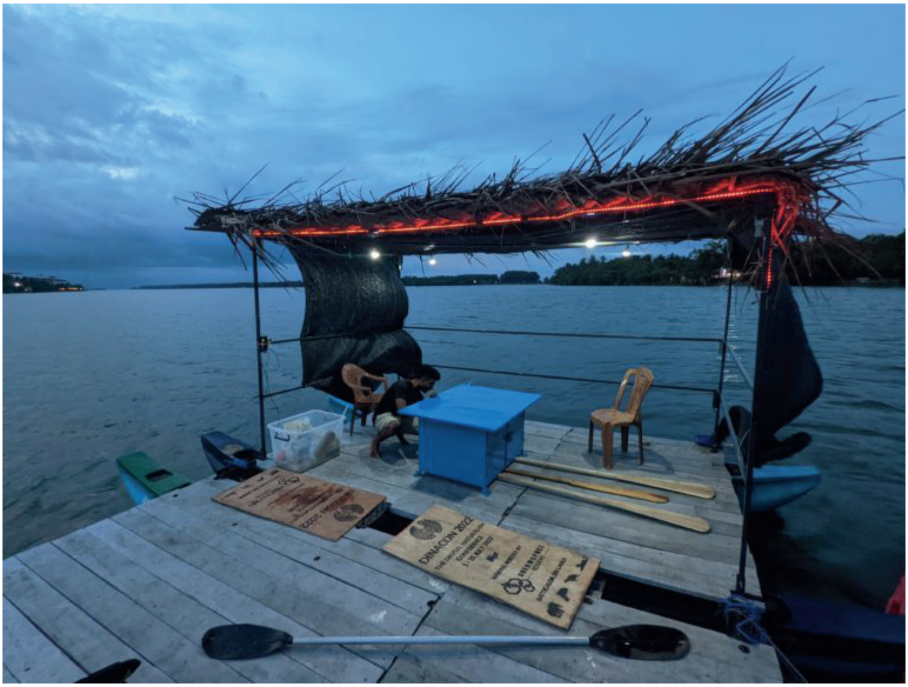
DREAMBOAT

ANDY QUITMEYER AND OCEAN LAB

Floating makerspace

The DREAMBOAT floating makerspace for Dreamspace academy is currently floating in the lagoon! It's an art+science field station in the middle of one of the most interesting ecosystems on earth, the baticoloa lagoon!

It's the home of the mysterious singing fish, and even lights up green when it hears the singing fish song (they weren't singing tonight so we played a recording, but the visuals totally worked!)



The floating workstation has a hydrophone attached to an arduino that changes LED colors when a fish song seems to be present.

We have been working at a super fast paced rate on a tight budget during numerous crises and managed to pull it off!

It will be there to work as an observation post to monitor the interesting creatures like the mysterious singing fish, as well as the destination for tourism! And a floating art project!

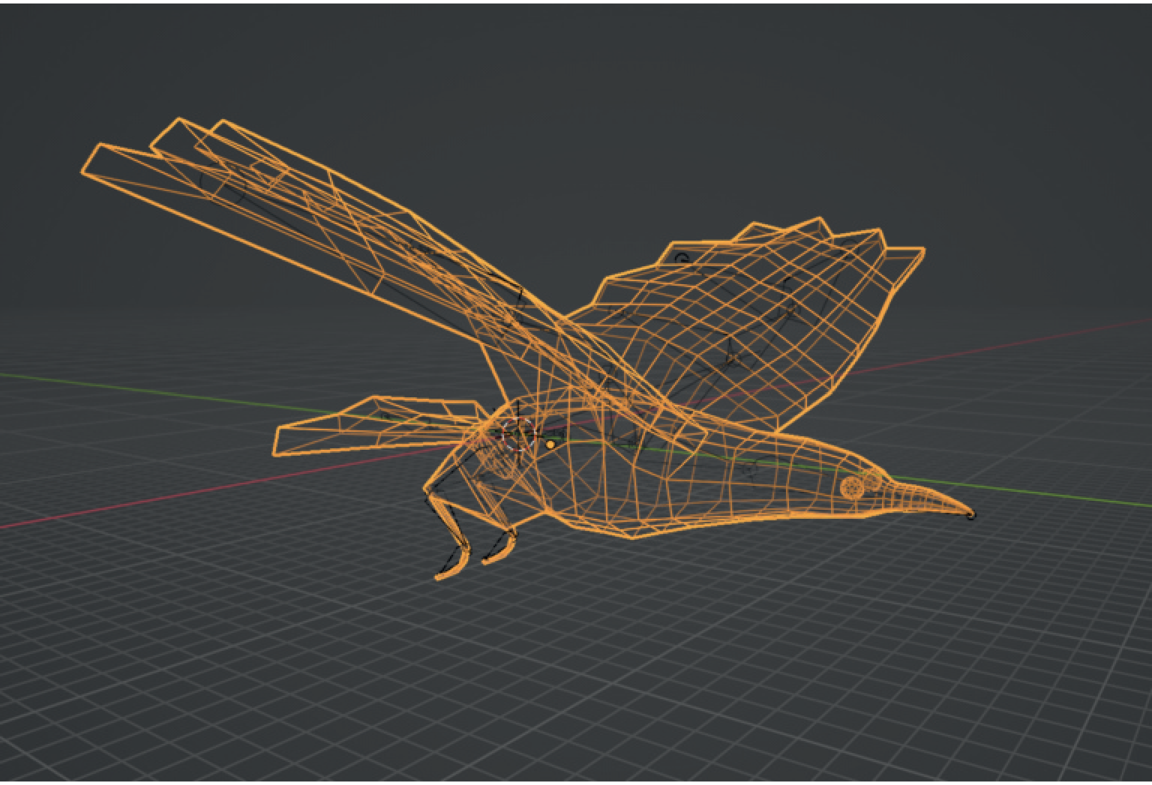
BOIDS DEMO IN BEVY

JAY BOND

Crow-themed game demo

I went into Dinacon 2022 with the notion that I would make an animal-themed videogame of some sort. It was a very vague goal which quickly became overshadowed by my desire to learn new tools, as I abandoned the fully-featured game engine and programming language I knew well in favour of an engine in its infancy and a language utterly new to me.

The result is a simple tech demo rather than a game,



but I learned a great deal in the process and do not regret the choice.

THE HOUSE CROW

Sri Lanka is home to a wide variety of fascinating wildlife, so the choice of a common house crow as the subject for my project may seem odd. However, I've always been attracted to creatures with unique relationships with human populations, and the crows certainly feature prominently in everyday Batticaloa. Their population size may be linked to human waste management problems. We regularly witnessed them stealing food from the endangered sea eagles who were nesting nearby, suggesting that in turn that population size can have an impact on other wildlife as well.

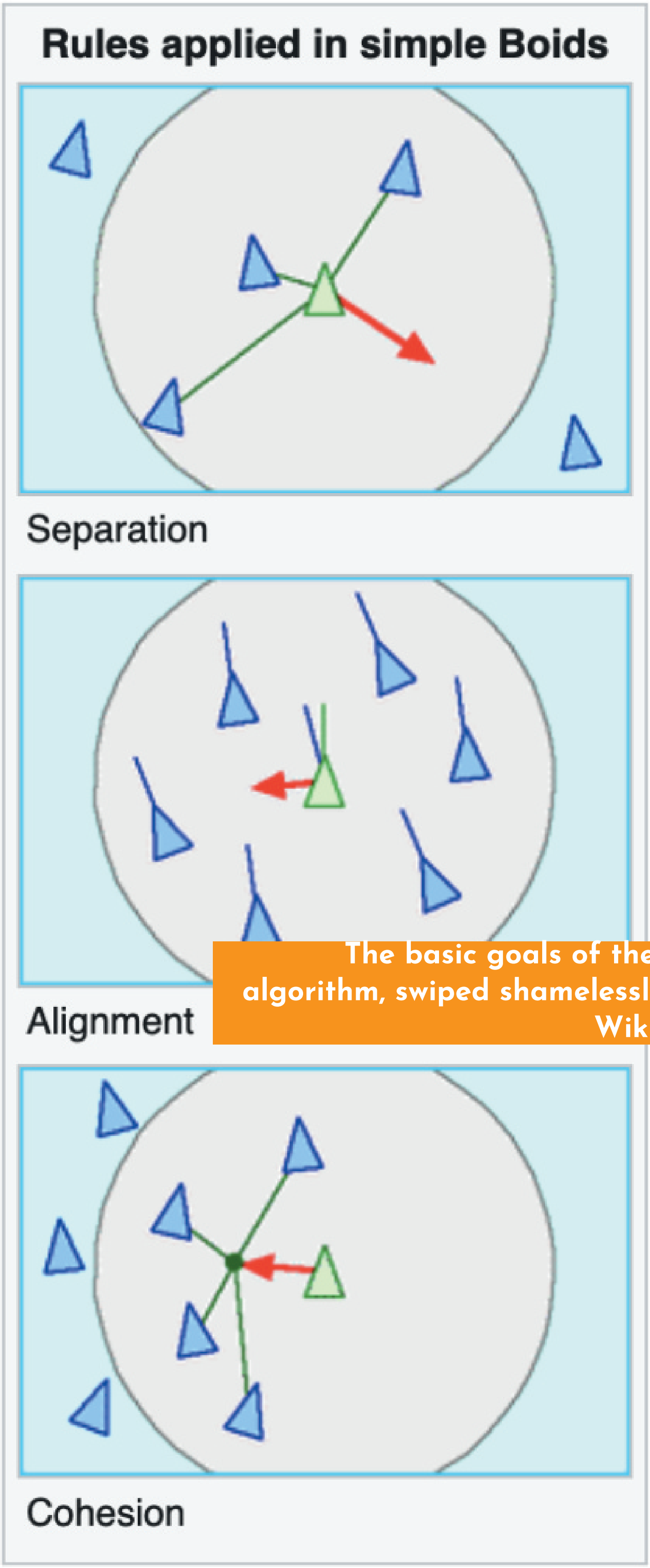
So I began my project with a simple 3D model of a crow, based roughly on photographs I took myself or collected from generous colleagues. I'm not an experienced modeller or animator, so it's a little rough but suited my purposes.

Boids

As I discussed my interests with colleagues at Dinacon many ambitious ideas arose, such as modelling the social hierarchy of the crows, their interactions with other species, and how their population tracks with human waste management patterns.

However, I settled on modelling flocking behaviour, in part because it is something I always wanted to model in a game engine. I was also surprised to learn from biologists in attendance that the algorithms they used to model flocking behaviours were very similar to those I had heard of used in videogames. It should be said, however, that although we witnessed crows in large groups often I don't believe this demo to be very accurate to the way those groups move about.

The Boids algorithm was developed in 1986 and has applications in simulations and videogames. It's also very commonly the subject of tech demos such as this one! The gist of the algorithm is the balancing of three goals for each "boid": separation, alignment and cohesion. All are based on each boid knowing the nearest bunch of neighbours in the flock. Separation is the goal in which each boid wishes to push away from any other boid that is too close. That is, it keeps them from bumping into each other. Alignment is the goal in which each boid attempts to face the same direction as its neighbours. Cohesion is the goal in which each boid attempts to get near the average position of its neighbours. This condenses larger groups into smaller


Rules applied in simple Boids
Separation
Alignment
Cohesion

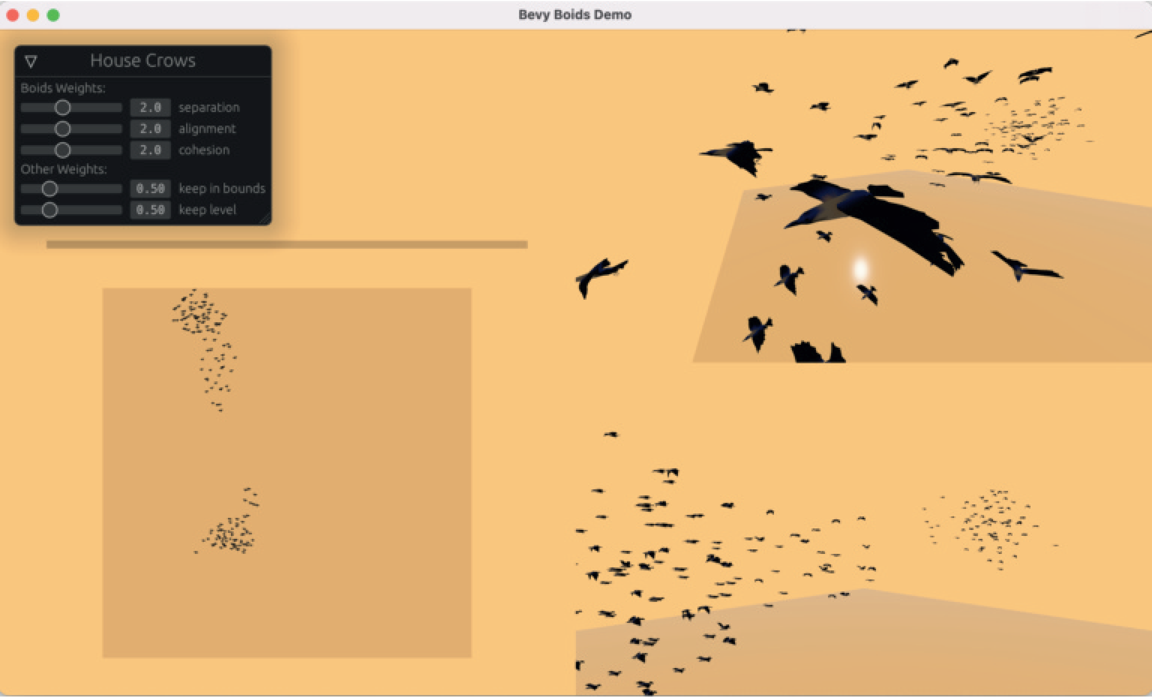
The basic goals of the Boids algorithm, swiped shamelessly from Wikipedia.

ones, while separation functions as a counter-balance to keep a minimum distance between them. At each timestep in the simulation, every boid recalculates where it wants to go according to these three goals, and steers accordingly. The results of this very simple algorithm are surprisingly natural and varied.
The basic goals of the Boids algorithm, swiped shamelessly from Wikipedia.

In the demo, each of these goals is exposed as a weight with a slider. You can adjust them individually and observe the resulting change in the flocking behaviour. It sometimes takes a minute for the effects of changes to become obvious, but by varying these weights you can create larger or smaller flocks in tight or loose formations.

BEVY & RUST

The game engine I chose for this project, aptly named Bevy, is still quite early in its development. What



Boids Weights:
2.0 separation
2.0 alignment
2.0 cohesion
Other Weights:
0.50 keep in bounds
0.50 keep level

attracted me to it was its open-source nature, cross-platform support, and its use of modern programming paradigms. It's also programmed in Rust, a very new, low-level language which has rapidly gained popularity in the FOSS community.

It stands in stark contrast with Unity, the game engine I have used both as a hobbyist and professionally for more than a decade. Unity is rich with features, but is owned by a large private company and is married to paradigms and a language (C#) which are falling out of fashion. Moreover, Unity's business practises include a cozy relationship with the US military — something that doesn't sit well with me, personally. While I cannot avoid it at my day job, I was determined to learn something new at Dinacon, and have enjoyed my experience so far with Bevy.
Downloads

The demo, including full source code and crow asset, can be found at:

https://github.com/HulloImJay/bevy_boids_demo

DREAMSPACE MURAL

JLASHANTHA, JASMINE GUTBROD, AND MELSHAN

Collaborative mural

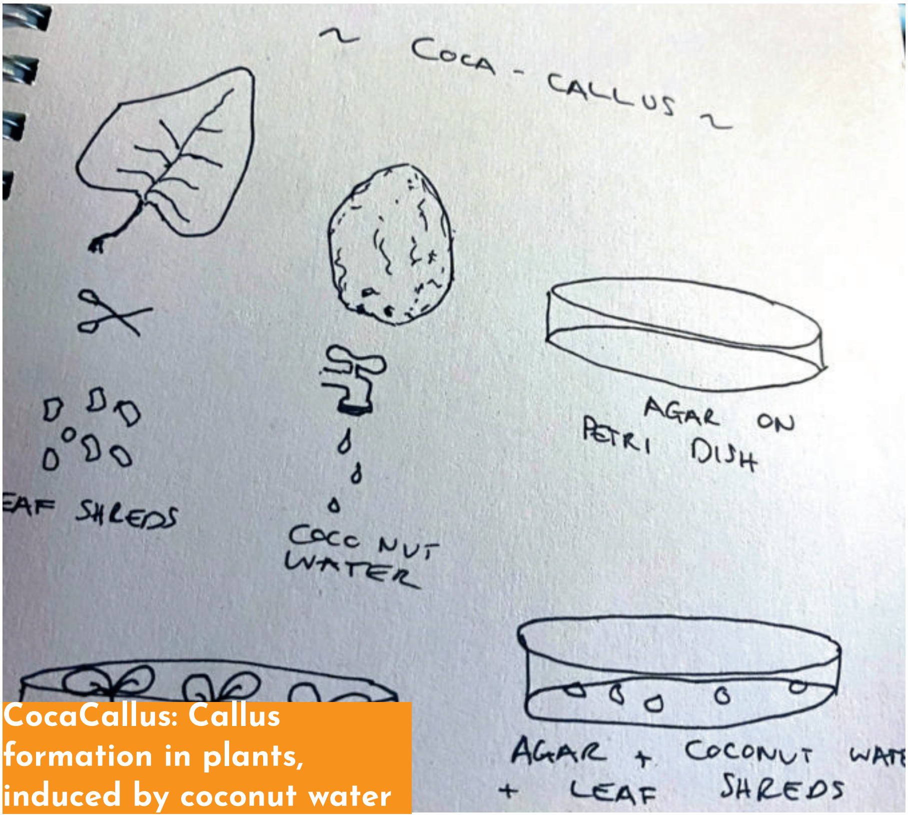
A collaborative project which utilized handmade templates and drawing tools to tell the story of the Dreamspace life cycle. Themes such as environmental sustainability, community engagement, and innovation are explored through graphic imagery along the entry staircase.

Dinasaurs adding flair to the new space!

ETHOLOGICAL OBSERVATIONS

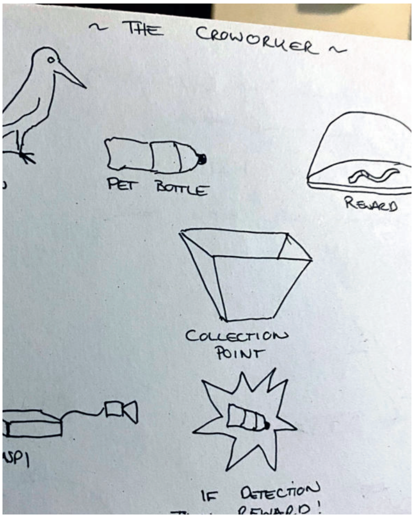
FRITZ FRANCISCO

Arriving as a graduate student in the last year of my PhD, the mind is used to focusing on specifics, not to be distracted or to waste precious time. Therefore providing an initial project based on my previous work seemed most promising, goal oriented and efficient. The idea was to implement object detection and automation to design an object/artifact with which animals could interact with. The goal was to study these interactions of animals with a novel object which


~ COCA - CALLUS ~
EAF SHREDS
COCONUT WATER
AGAR ON PETRI DISH
AGAR + COCONUT WATE
+ LEAF SHREDS

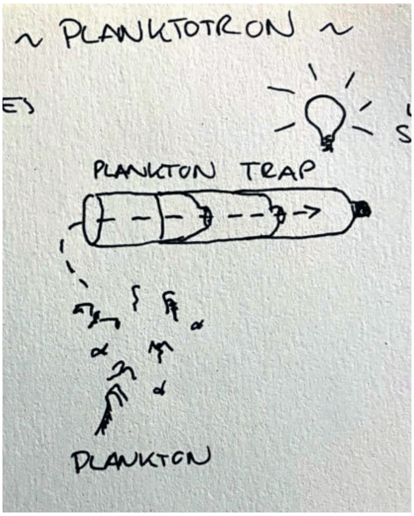
CocaCallus: Callus formation in plants, induced by coconut water could be manipulated.

After arriving in a place very distant from my research confinement some aspects already seemed less promising. Electricity was not readily available and internet access was not at all continuous, resulting in limited ability to test and research problems when these were encountered. Therefore, before getting frustrated about something as trivial as internet access the only sensible thing to do was spend time in the more rewarding ocean close by and, more importantly, doing this with others that could get equally excited about finding stuff on the beach or by sticking your head underwater. After seeing what amazing opportunities nature in the direct vicinity had to offer these outings became more regular with daily beach visits and nightly observations in the lagoon. Being trained in aquatic biology and having worked as a scientific diver it is important to me to get



Croworker: Crows being trained to collect plastic bottles

Planktotron: A simple plankton trap using PET bottles and a light source



close to nature and experience it directly in person. This lead to a transition from the initial idea to implement a project in which an object/artifact is

Hands on exploration of natural objects

created which was merely constructed from my previous experience and of interest to me solemnly to something more holistic. It was more important for me to participate in the community and assist where needs could be met, which is why I decided to give swimming and snorkeling lessons, which were further improved by assistance from other fellow experienced Dinosaurs and which was a ton of fun.
I think it is important to make things but also reflect on why we are making these things and what implementations these may have. Teaching is a form of making which can be hard to quantify or document but is as rewarding as any other. Therefore, my project turned from "I have an idea, I want to do this" into "let's swim better and stare at things for a little bit".

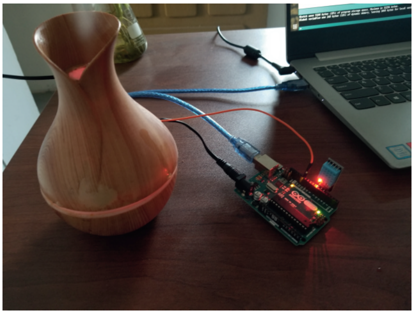
Each one, teach one.

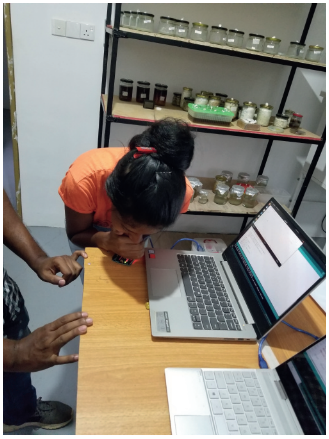
FLUFFYNATOR

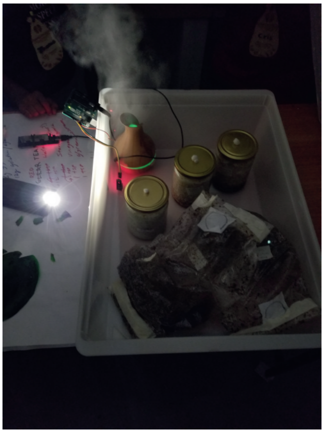
Biolab Crew

Editor's Note: Sometimes Dinasaurs work on something they were clearly very excited about. They even started documenting whatever it was with photos and gave it a title, but didn't get around to actually writing a full description. This is one such project.

They look like they are having a pretty good time with whatever they are up to.







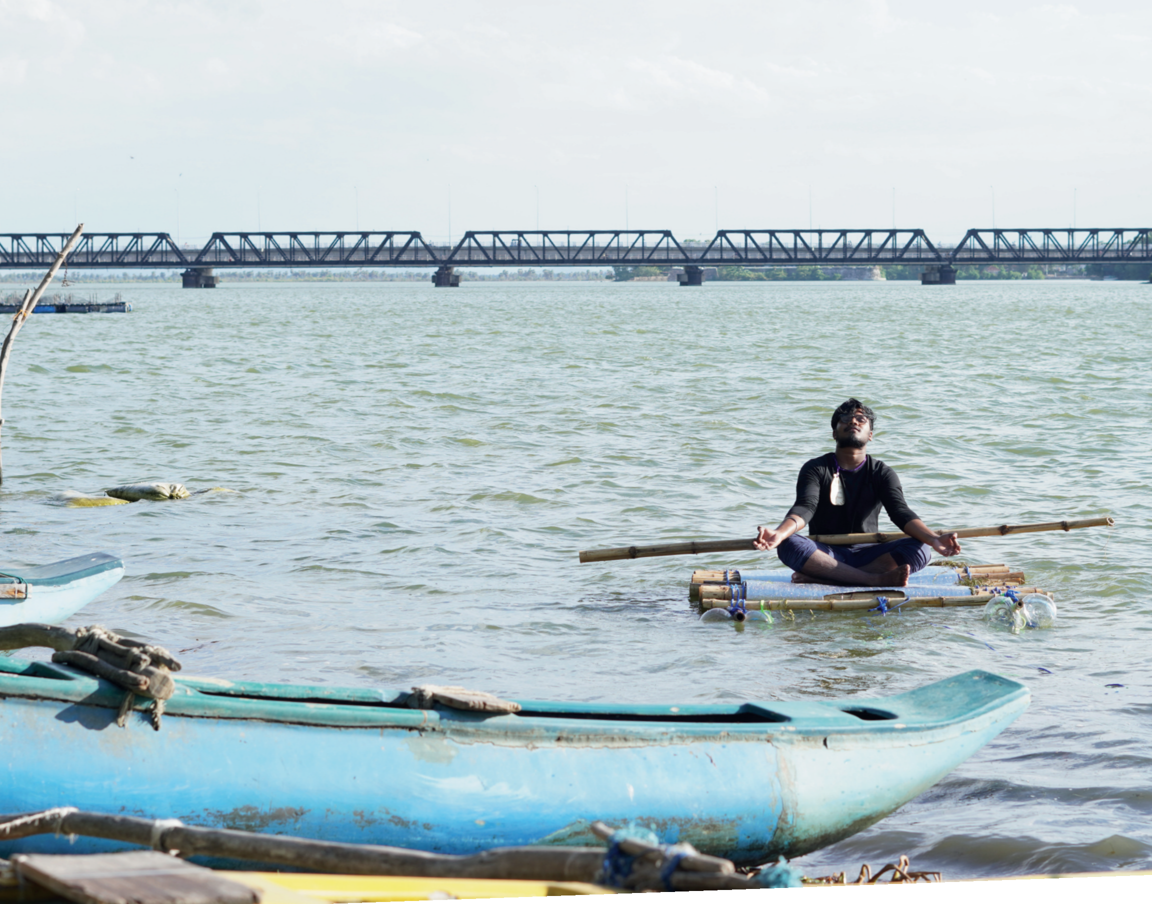
FLOATING MEDITATION

DINOJ, SANJAY, HARISHIHAN, SANKEERTH

Short description sentence or so?

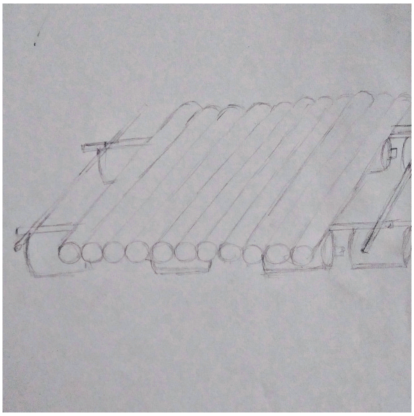
There are some powerpoints and other materials that I wasn't able to open. There are also a couple .cr2 photos in the file that I did not manage to open. Following is their text:

What this is about,
We all heard about meditation. Usually we meditate on the floor. As the city of Batticaloa where we live is surrounded by water, the idea of floating in water and



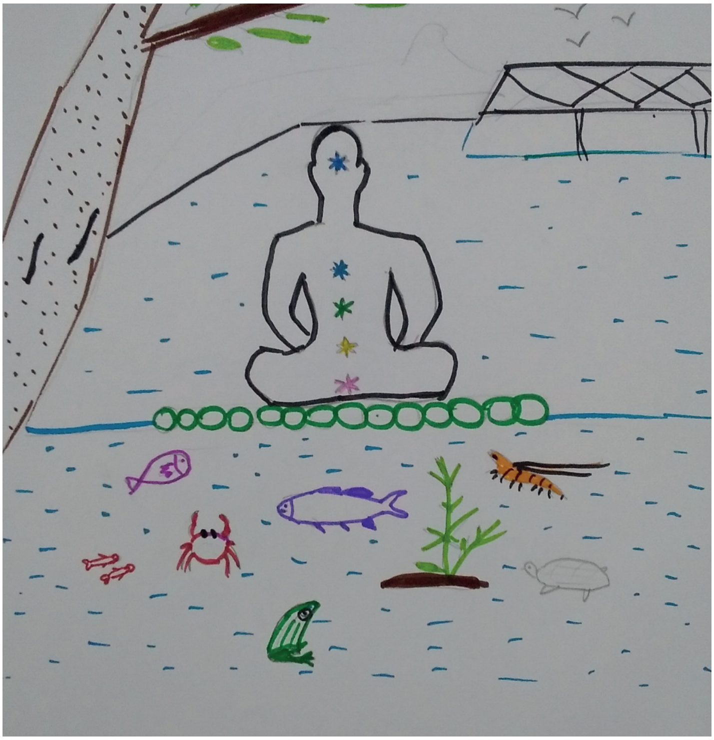
meditating arose.

So we did it. Yeah, we built a catamaran and meditated.



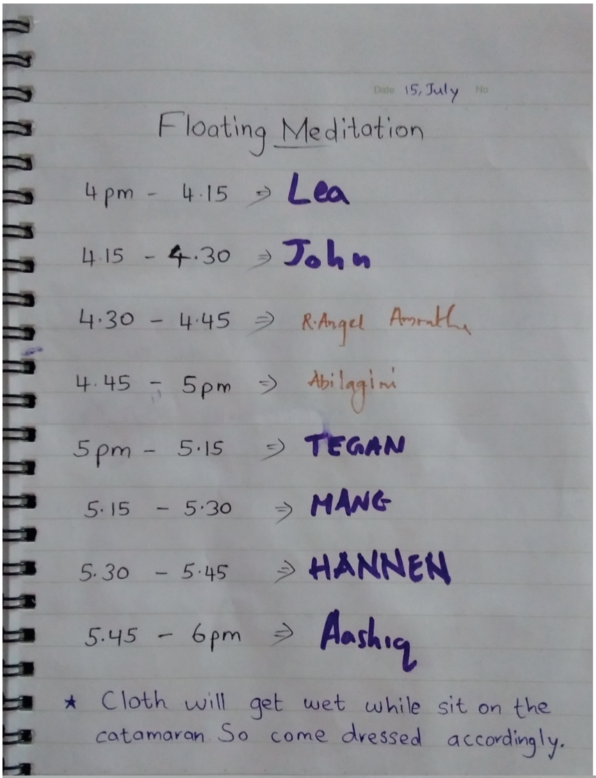
You can hear nature while floating and meditating. Water will flow. Birds will call. Wind will blow.

They will help you focus. They will help you relax. They will let your brain rest.



Floating meditators

Floating meditation crew

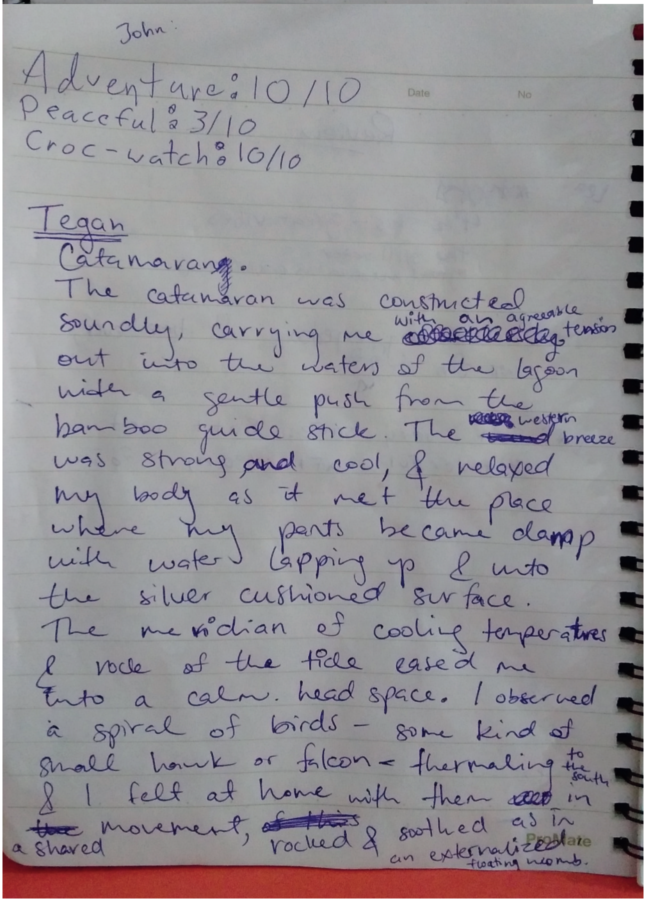


15, July

Floating Meditation

4pm - 4.15 ⇒	Lea
4.15 - 4.30 ⇒	John
4.30 - 4.45 ⇒	R.Angel Amratha
4.45 - 5pm ⇒	Abilagini
5pm - 5.15 ⇒	TEGAN
5.15 - 5.30 ⇒	MANG
5.30 - 5.45 ⇒	HANNEN
5.45 - 6pm ⇒	Aashiq

★ Cloth will get wet while sit on the catamaran So come dressed accordingly.



John:

Adventure: 10/10
Peaceful: 3/10
Croc-watch: 10/10

Tegan

Catamarang.

The catamaran was constructed soundly, carrying me with an agreeable tension out into the waters of the lagoon with a gentle push from the bamboo guide stick. The western breeze was strong ~~and~~ cool, & relaxed my body as it met the place where my pants became damp with water lapping up & into the silver cushioned surface. The meridian of cooling temperatures & rock of the tide eased me into a calm. head space. I observed a spiral of birds - some kind of small hawk or falcon - thermaling to the south & I felt at home with them in ~~the~~ a shared movement, ~~of this~~ rocked & soothed as in an externalized floating womb.

Review

Lea: ☆☆☆☆☆
4½ stars – great vibes.
the still water is a
great meditation environment

Amrutha:
Amazing experience, 1st time ever,
was fun ☺

Daphne:
Felt very safe. Butt wet.
wonderful raft team. ^o^

MANG

Nice getting out on the water!
I liked the motion with the waves
and seeing the birds soaring over the
trees. I love the DIY!

Bharath

Good time to be out with the
sun setting, floating with the birds
in the sky. Feeling the wind, the
sound of the water on the bamboo.

leonie

I really loved the drifting of my
view, like I could let my eyes
wander on where the raft decided
to go without thinking. Very nice
perspective also, at some point it felt
like I was floating alone far out
in the ocean. Thank you!
I want to build my own raft now...

ProMate

It is very gratifying that
8 dinosaurs participated in the floating
meditation session we conducted today.
I am so grateful for them. I love
their reviews. I will fix the deficiencies
in subsequent sessions.

Thank You.

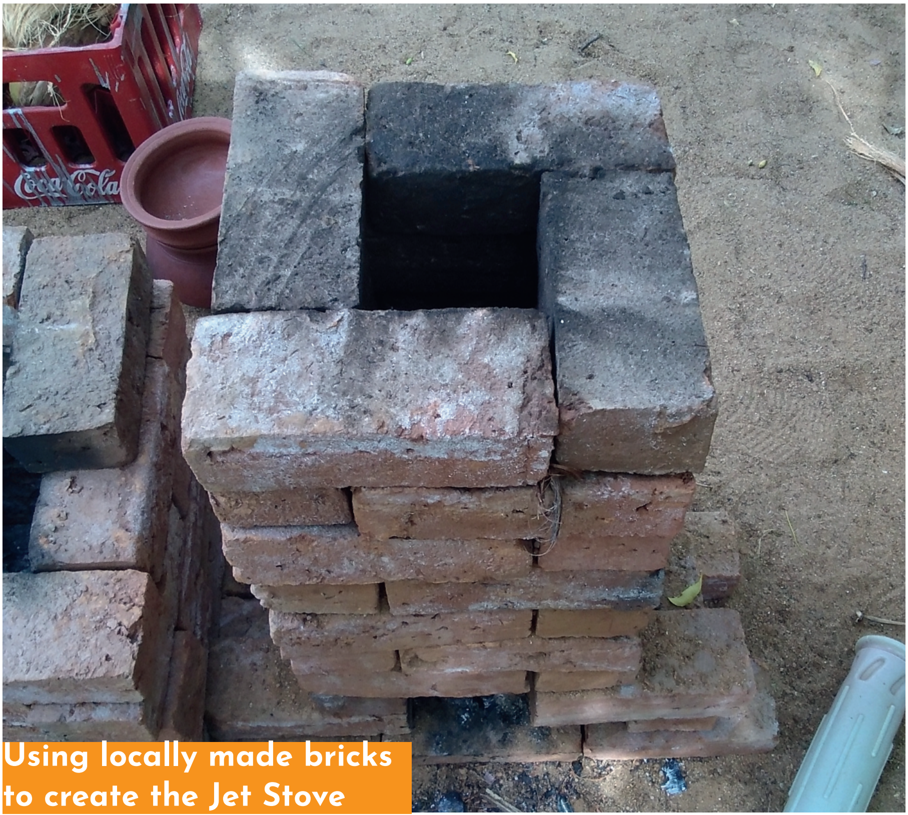
Dinoj,
15, July, 2022

HUSK BURNER

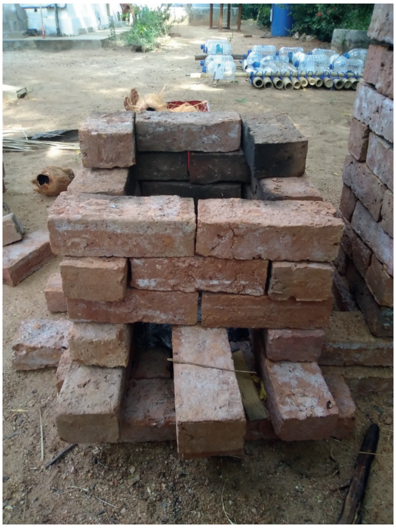
HAROLD TAY ET AL

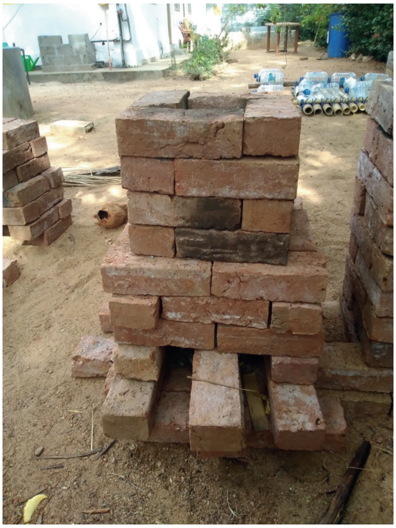
Harold Tay became a little obsessed with creating an ultra efficient stove for turning the highly abundant coconut husks into useful energy. Based on the "Jet Stove" concept, this DIY stove can provide super high levels of heat needed for things like pizza stoves and ceramics.

He had elaborate documentation of his iterations you can see on these following pages.

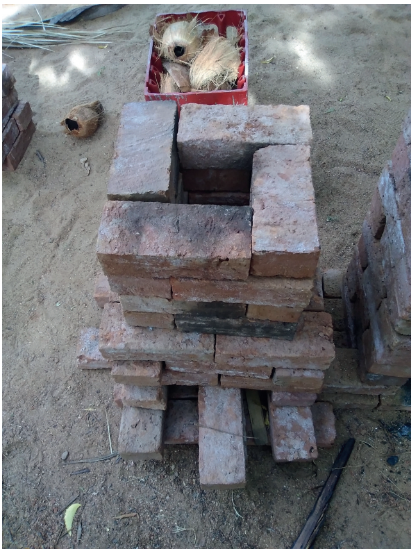


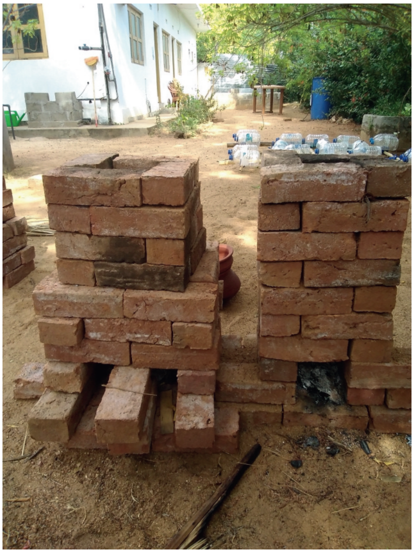
Using locally made bricks to create the Jet Stove





There was a square, brick based version and a round metal version detailed later.

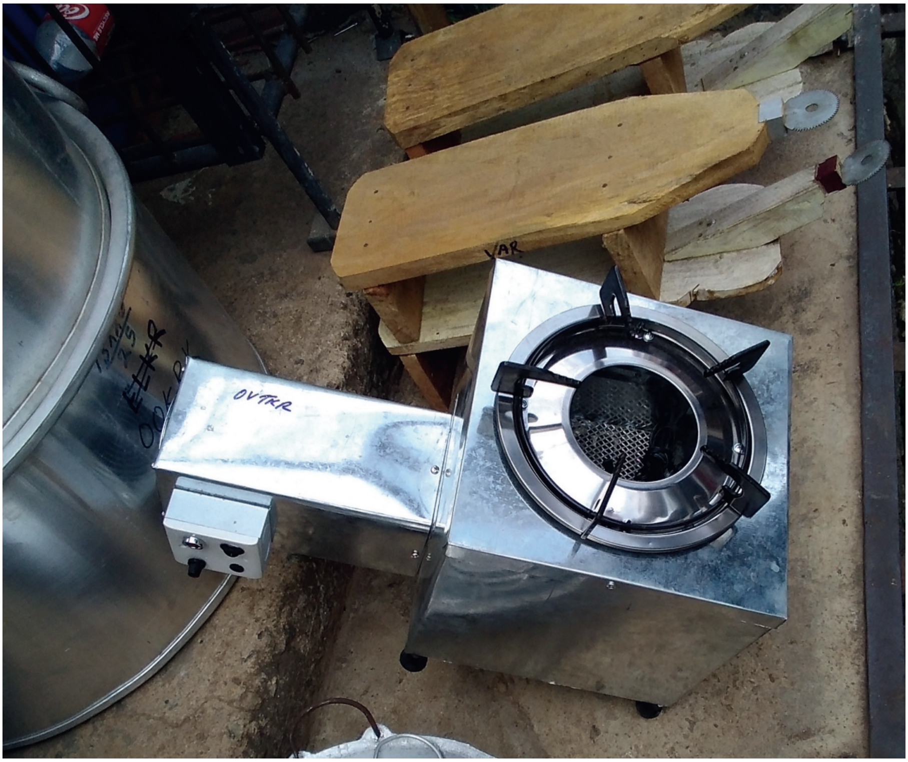


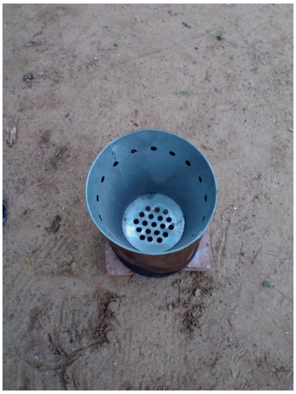


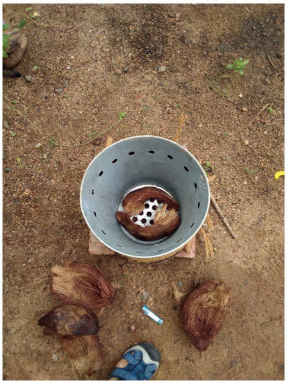
GRE

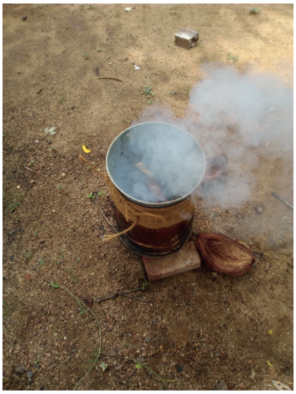
GREASE

GRE
16 Kg


VAR
OVTKR







The classic commute to get supplies across the Batti Bridge

PLASTIC BOTTLES TO 3D PRINTER FILAMENT

ANDY QUITMEYER AND TRASH FOR TRADE

A place like Sri Lanka can be difficult to import rolls of 3D printer filament, but plastic bottles are everywhere!

I have been exploring different ways of turning ubiquitous trash into useful material. In 2022, a russian hacker posted videos of a novel form of turning PET plastic into 3D printer filament using a method called, "Pullstrusion."

BACKGROUND

This was interesting because PET is abundant in the form of plastic bottles, and also because this type of

Dreamspacer demonstrating the rapid way of turning plastic bottles into useful materials plastic is usually a difficult thermoplastic to work with since it is a poor thermoplastic that can be finnicky to melt smoothly. Instead of melting it entirely though, the pullstrusion method takes a strip of PET, pulls it through an old 3D printer filament nozzle, and makes it curl into a tube that can be used just like regular 3D printer filament!

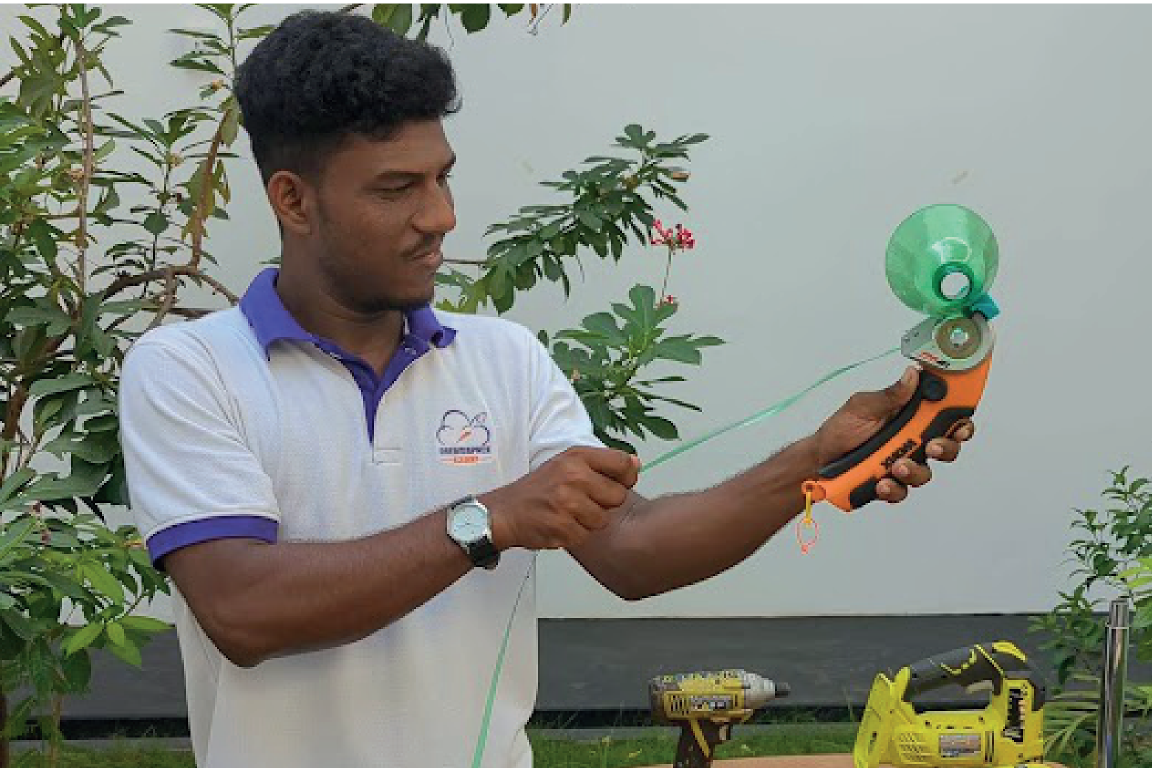
In order to bring these cool new abilities to 3D print with the trash around us, I created two tools for Dreamspace.

MOTORIZED STRINGER

First, I wanted a way to very quickly and easily turn plastic bottles into strips. So I created a novel, open source design, of an attachment you can connect to ordinary motorized box cutters that lets you turn any size or shape bottle into useful string!

All design files are available here:

www.printables.com/model/221589-motorized-plastic-bottle-string-slicer

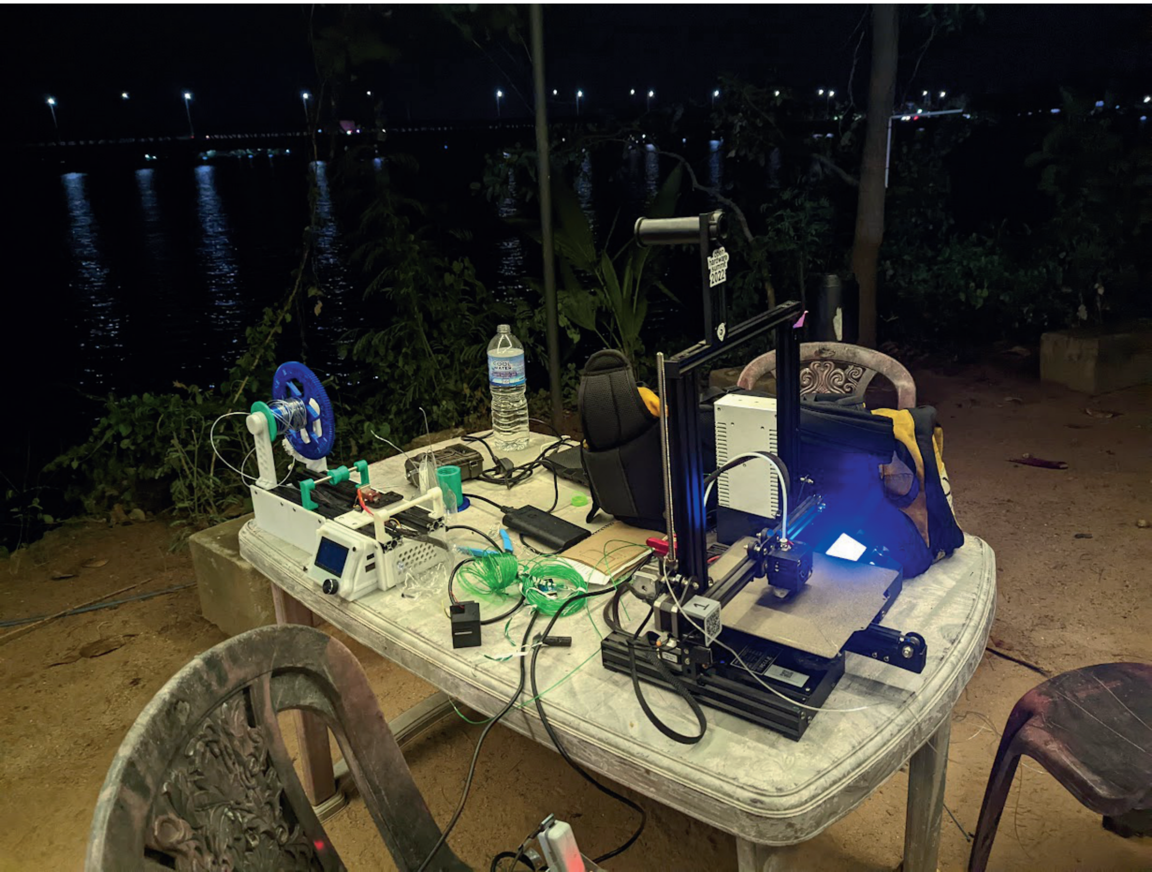


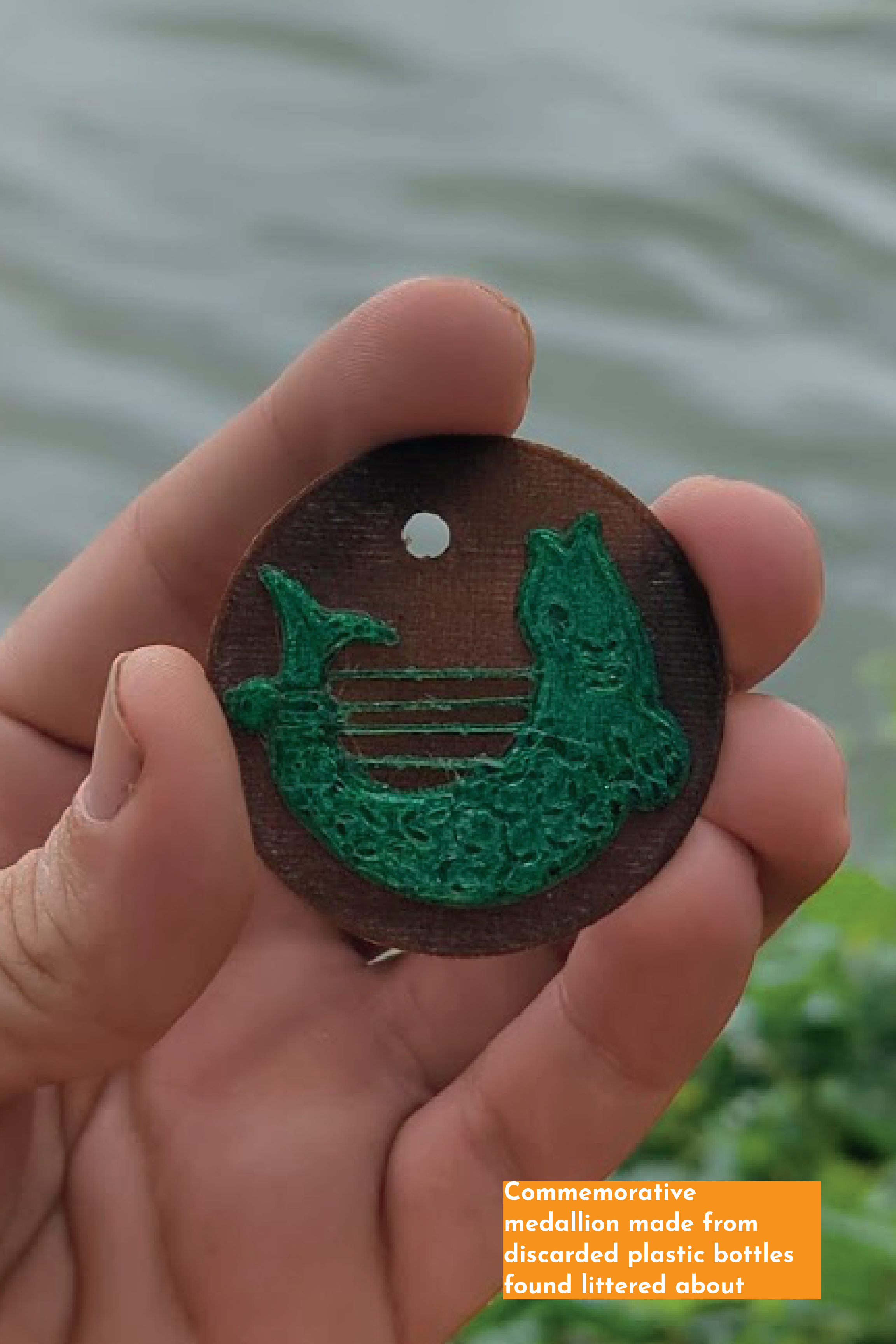
PULLSTRUSION MACHINE

Next, we needed to build the actual machine that turns this plastic tape into 3D printer filament. Joshua Taylor's http://recreator3d.com/ is based off the original pullstrusion concept and released as a set of open-source parts you can 3D print and adapt from an old Creality Ender 3D printer.

We built one at Dreamspace and it worked terrifically!

With this free, ubiquitous filament we tested many protoypes from 3D printed mazes for microbes to commemorative coins for participants.





Commemorative medallion made from discarded plastic bottles found littered about

UPCYCLING PLASTICS AND BUILDING A DIY HYDRAULIC PRESS

PAULA TE WITH DREAMSPACE COLLECTIVE: JERUSHAN SRITHARAN, JATHUJAN MAHENDRAN, SAJEEV PUNITHAKARAN, GABISHKA MOHANALINGAM, KIRITHARAN MAHENDRAN.

TRASH FOR TRADE: ABITHARANI JEYACHANDRAN, JAYANTHAN AMALANATHAN. CREATOR PERSON AND OTHER CREATOR

With help & inspiration from fellow Dinasaurs Andy Quitmeyer, Michael Ang, and William Kennedy at Dinacon 2022

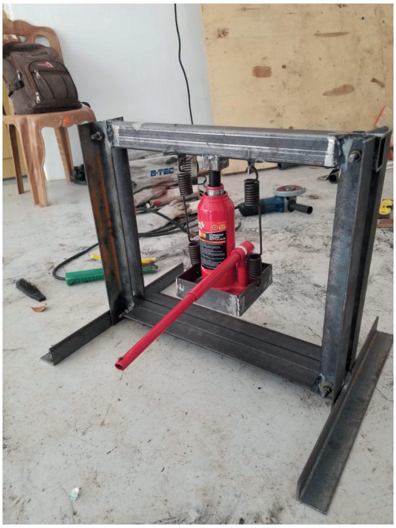
See also: Bendy the plastic heat bender, built by Brian Huang

Paula and Mang showing a cool peice of squished acrylic mixed with other types of plastic.

HOW-TO: BUILD A HYDRAULIC PRESS

This press was built specifically for pressing heated acrylic scrap together for acrylic upcycling. The design was based around the materials at hand; it's a modification of pre-existing designs like this one by petercd and this from Precious Plastics.

Safety precautions: This build involves creating a strong frame that can withstand up to 16,000 pounds of force, which can be very dangerous if improperly built. Welding and working with metal also requires appropriate safety knowledge and gear.



The key aspect of recycling acrylic is that you need a strong press to squish the plastic together

SAFETY:

Safety goggles
Welding gloves & protective clothing
Welding mask

TOOLS:

Welding equipment & protective gear
Angle grinder
Metal cut-off saw
Square ruler
Chalk or scribing tool
Measuring tape
Welding magnet clamps, or right angle jigs
0.5” diameter drill, drill press

MATERIALS:

[Qty: 1] 8 Ton Car Jack

[Qty: 1] 2” x 2” x 0.1875” Steel angle bar, 20ft length

[Qty: 2] 1.5” x 2” x 0.1875” Steel rectangular tube, 2ft length

[Qty: 1] 1.5” x 1.5” x 0.12” steel square tube (sized to fit around head/top of car jack), 1” long

[Qty: 2] 0.75” x0.75” x 0.12” Steel angle bar, 1” length

[Qty: 20] 0.375” dia bolts, 2.5” length

[Qty: 20] nuts that fit the bolts :)

[Qty: 20] .0375” inner dia washers, 1” outer dia

[Qty: 2] 9” springs, ~1” coil diameter

[Qty: 1] Valve release arm, laser cut

Designs and Blueprints:
https://www.2022.dinacon.org/2022/09/09/building-a-hydraulic-press-upcycling-plastics/

GENERAL ORDER OF FABRICATION:

Cut material to length. Drill holes for the base, top, and vertical supports. Bolt the pieces for the base together, and bolt the pieces for the top together. Weld edges.

Drill holes for the spring hooks and the jack base. Weld jack base together and grind so that the bottom of the base is even.

Weld the jack sleeve and the spring hooks to the top of the frame.

Bolt the vertical supports to the base and top. Check the frame is square. Weld edges.

Weld the legs to the base of the frame.

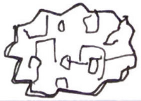
Insert the car jack into the jack base, with the top of the jack sitting inside the sleeve. Press the valve release arm over the valve.

HOW-TO:
UPCYCLE PLASTICS INTO SHEETS FOR LASER CUTTING & MORE

Often people think of plastics shredding as the first part of this process, but it's not a requirement - you can do this all without a shredder! The basic process is

HOW TO USE ACRYLSQUISH

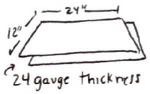
to upcycle ACRYLIC TRASH into COOL SHEETS!



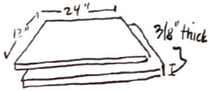
INGREDIENTS

acrylic scrap

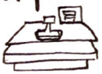
2x galvanized steel sheets



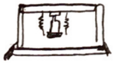
2x aluminum plates



heat press



hydraulic press



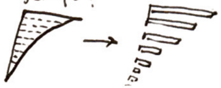
thick oven/welding gloves/extra heat protection

Where to get Acrylic scrap:

Art Focus in Kattankudy

They sold me 2 bags of scrap for 2000rs. Maybe we can get a better deal if we collaborate more with them!

Squishing acrylic worked best when we shredded the large scraps into 7mm strips. You can use the laser cutter to pre-process the scraps!



TRASH FOR TRADE

DREAMSPACE
COLLECTIVE

Paula Te

@

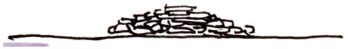
DINACON 2022

STEP 1

Heat up heat press to 200°C. Place one aluminum plate in heat press to pre-heat. Close heat press.

Separately...
On top of a galvanized steel sheet, arrange acrylic scrap in a pile in the center.

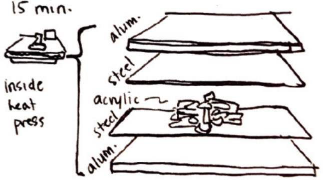
Try to get your pile 3-ish layers thick, and thicker in the center. Make sure there are no gaps in the pile that will lead to holes later.



STEP 2

Open heat press. Inside the press, make a the metal-acrylic sandwich:

- Place galvanized steel sheet with acrylic pile on top of pre-heated aluminum plate.
- Place the second galvanized steel sheet on top.
- Place the second aluminum plate on top.
- Close heat press. Heat @ 200°C for 15 min.



the metal-acrylic sandwich

STEP 3. USE GLOVES & HEAT PROTECTION!

After 15 min, flip the metal acrylic sandwich over to heat the other side. Heat for 10 min.

STEP 4. USE GLOVES & HEAT PROTECTION!

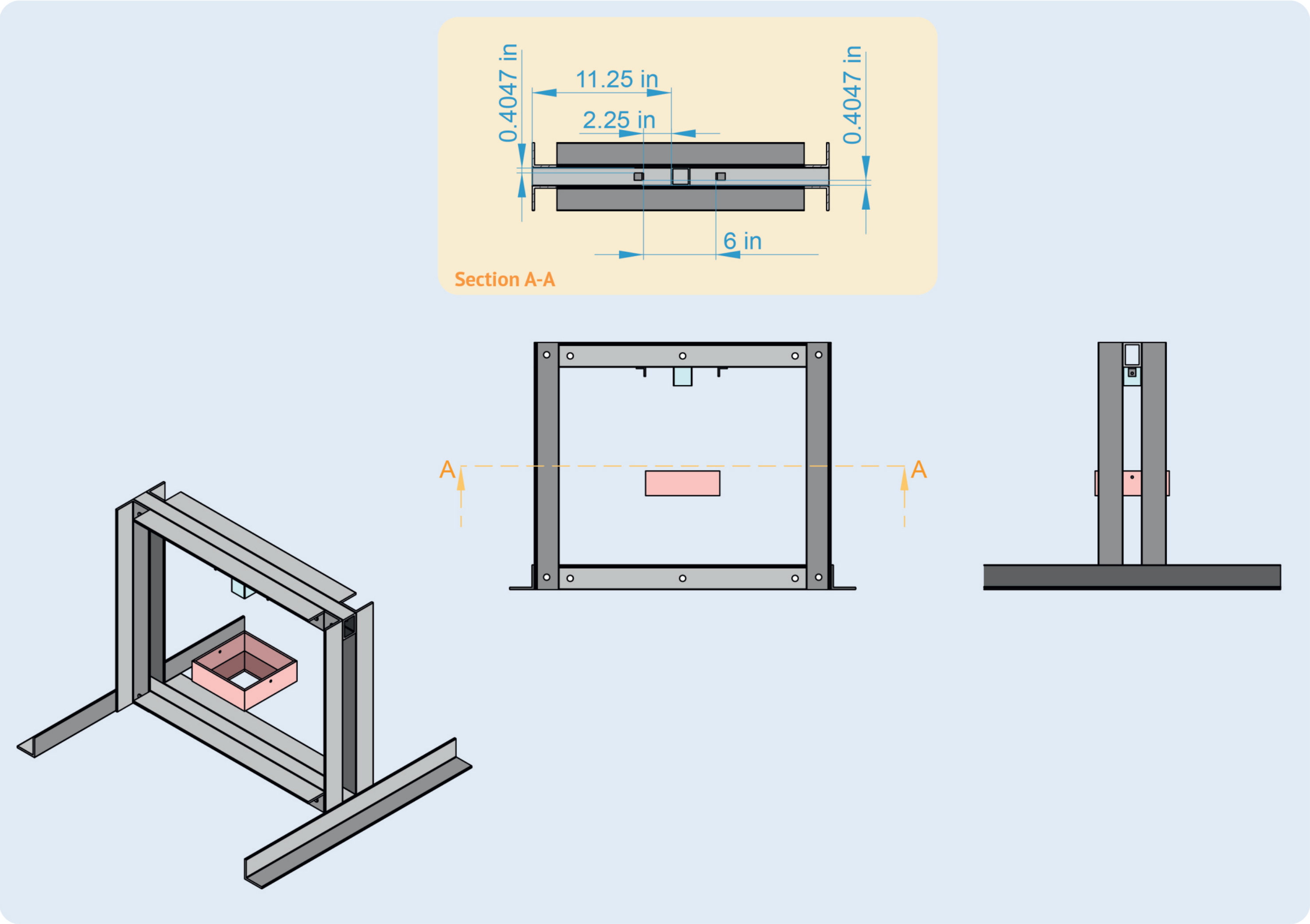
Remove sandwich from heat press.
Carefully place in hydraulic press.
Crank the hydraulic press to SQUISH the sandwich. ~~Crank~~ Apply pressure until handle becomes difficult to crank.
Leave under pressure until acrylic cools, ~2 hours?

STEP *5

Release hydraulic press, once sandwich has cooled. Admire your newly squished recycled acrylic sheet!

Things to do with your new sheet:

- Frame it as art
- Laser cut new designs on it
- Use it as a base or enclosure for your next art project
  - jewelry
  - keychains
  - etc.


0.4047 in
11.25 in
2.25 in
0.4047 in
6 in
Section A-A
A
A

Hydraulic Press Frame, Assembled (not pictured: springs, bolts) to apply heat to a pile of plastic, then apply pressure to turn them into flat sheets. Plastics like HDPE require minimal pressure, so they do not necessarily need a 8-ton hydraulic press (generally, the pressure supplied by a T-Shirt press will work fine). Acrylic, on the other hand, relies on high pressure after being heated in order to fuse together.

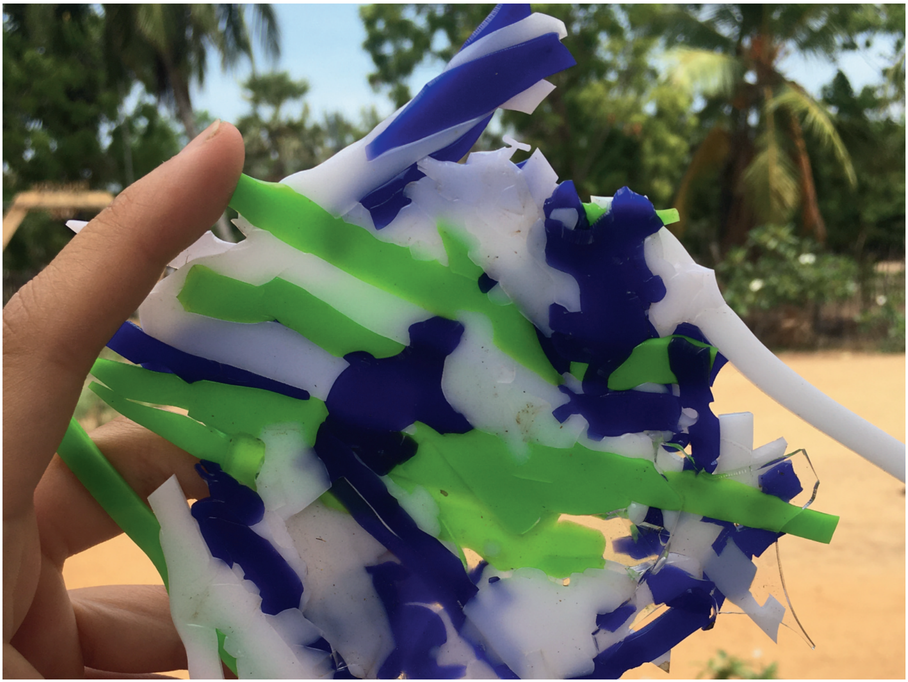
Safety precaution: This requires using a heat press at 200C (392F)! Please wear heat protection and safety goggles. Also, check out Precious Plastic's page on Safety and Fumes.

SAFETY:

Safety goggles

Silicone oven mitts

Mask or outdoors environment to vent fumes



TOOLS:

The cool press you just made from the How-to: Build a hydraulic press section

16” x 24” T-Shirt heat press

[Qty: 2] 16” x 24” Teflon sheet

[Qty: 2] 12” x 24” x 0.375” Aluminum plates

MAKING HDPE PLASTIC FORMS

Materials: HDPE! This is Plastic #2. Many soda bottle and water bottle caps are HDPE. (Sometimes they are Plastic #5, which is PP, which will make for inconsistent melts if mixed.)

1. Set the t-shirt press to 130°C.

2. Place an aluminum plate on the t-shirt press. Place a teflon sheet on the aluminum plate.

3. Dump your bottle caps onto the teflon sheet. It’s best to arrange them in a hill-like pile in the center of the sheet to concentrate the heating power; as it melts, the plastic will slowly flow into a flat sheet.

4. Place another teflon sheet on top. Place the aluminum sheet on top of the teflon.

5. Clamp down the t-shirt press!

6. Check the press in 5-10 minutes, tightening the press if needed.

Once the plastic has melted to your satisfaction, turn off your heat press and leave the sheet in the press to cool. Or, migrate the teflon-plastic-teflon sandwich to the hydraulic press, which can help to keep the sheet flat as it cools (it will warp otherwise).

Once it's cooled, you're done! Ta-da!

You can migrate the melty plastic in between two steel bowls and use the hydraulic press to form the plastic into bowls.

Bowls made from recycled bottle caps.

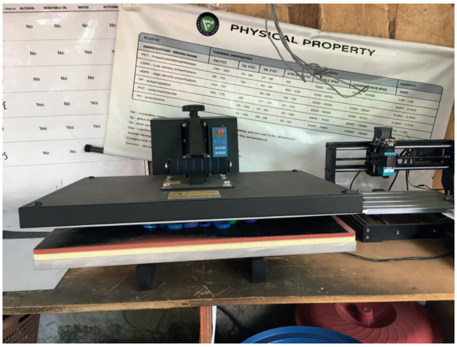
Making acrylic plastic sheets

MATERIALS: SCRAP ACRYLIC!

Step-by-step instructions are in this zine printed above and downloadable on the dinacon website!

LDPE
Yes
No
Yes
PS
PS
POLYSTYRENE

DOCUMENTATION



Clamp down t shirt press.

Acrylic, also known as plexiglass, perspex, or PMMA, is a kind of plastic that cuts wonderfully in the laser cutter. However, most recycling centers do not handle acrylic, so most offcuts (the material left over after cutting) sit around next to the laser cutter in case that sliver of scrap acrylic is the right width for your next project. Piles and piles of scrap acrylic accumulate or eventually end up in the trash.

Consulting at a laser cutting company, this was a first-hand experience for me. When I saw Digital Naturalism Lab's recycled acrylic keychains, I knew that I had to try out the process they used myself — and that urge, along with meeting Trash for Trade, the social enterprise we'd be getting to work with, was the seed for the acrylic recycling press project at Dinacon 2022 in Sri Lanka.

What follows are bits of

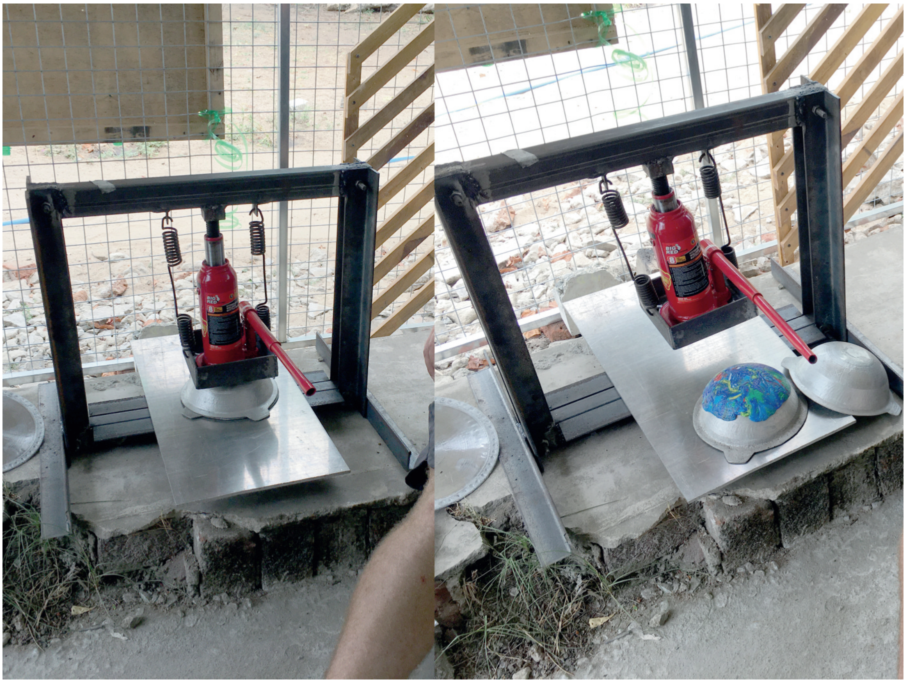
documentation into each section of the process, from building the press on the ground to then experimenting with the output. This could not have been done without the amazing folks at Dreamspace Collective and the friends and collaborators at Dinacon!

Building Acryl-Squish, the DIY acrylic-recycling hydraulic press

Pre-planning: packing sheets of acrylic, thick aluminum heating plates, steel tubes, and a car jack, totalling 50lbs, into my checked bags.

Earthwise Salvage used materials shop in Seattle. That large aluminum plate went with me on the plane.

Jerushan helped us find springs, bolts, and angle bar for the project in Kattan Kudy. We finally found



springs at a scrap motorbike parts store, found after relentless hunting and stopping at used parts/metals stores along the way.

Sharing and trading welding skills with Sajeev and Abi and building the press. I'm grateful for their badass welding suits, square ruler, and C clamps.
Note to self: bring speed square/carpenter's square, welding magnet clamps next time.

A quick to-do list helped me keep track of the tasks and also helped communicate the next steps to others.

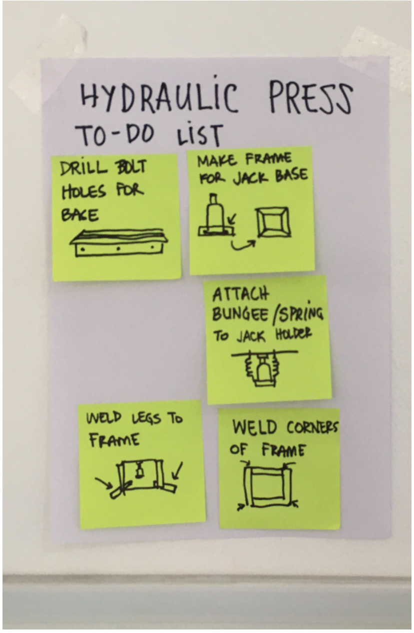
Always bring a toolbelt for international trips.

Laser cutting a lever to open the hydraulic release valve

The CAD drawings shared of the hydraulic press frame have extra reinforcement for the top strut of the frame; this is because at high pressures,

A recycling center in Kattan Kudy.

Photo credit: DreamSpace Story Lab



HYDRAULIC PRESS
TO-DO LIST

DRILL BOLT HOLES FOR BASE

MAKE FRAME FOR JACK BASE

ATTACH BUNGEE /SPRING TO JACK HOLDER

WELD LEGS TO FRAME

WELD CORNERS OF FRAME

the top beam bows up. The welded corners are very secure (proper welds are much stronger than the beam itself!), and the beam is only deforming elastically, but the drawings reflect a second iteration of the frame that would make the top beam stronger.

The top of the frame bows under high pressure!

Huge thanks to Dreamspace Collective, Sajeev, Jerushan, Jathujan, Kiri, Gabi for their collaboration on this project!

TURNING SCRAP PLASTIC INTO NEW SHEETS

HDPE:

Andy & Trash for Trade turned shredded HDPE into sheets! The HDPE sheets warp when cooling, so it's best to keep them compressed either in the t-shirt press or in the hydraulic press to maintain their flat-sheet quality.

Earthwise Salvage used materials shop in Seattle. That large aluminum plate went with me on the plane.

Keeping the HDPE sheet compressed in the press as it cools

With one of our attempts at melting bottle caps, we didn't use teflon sheets, and what resulted was a bunch of melty putty-like plastic stuck to the aluminum sheet.

Acrylic:

Finding a source of acrylic scrap with Jathujan: Art Focus in Kattan Kudy! This was a wonderful find, since, to be honest, there's not a lot of acrylic around and I was starting to wonder if it was actually productive to create a recycled acrylic process in Batticaloa. Acrylic is expensive, and it cost us 2000rp for a bag of scrap from the local sign shop. Nevertheless, we made good connections with the shop team and got to work trying to create new sheets!

The first attempt to squish acrylic didn't turn out super great. The t-shirt press only heats the top plate, and we didn't leave it in the press to melt for long enough. On top of that, the scraps were kind of large and needed more time to fully melt.

So we cut the scrap into smaller strips in the laser cutter, and then returned to our recycling process for round two.

Small acrylic strips and scrap broken into smaller pieces in the metal bowls.

Iteration two turned out much better; we could pile on the smaller scraps in more of a heap, and they melted together better. We also flipped the aluminum plate sandwich halfway in between the melting process to ensure both top and bottom heated up.

https://youtu.be/Y2Bpjvah0hU

Mang used the acrylic fusing process in a totally novel way - intentionally placing the scrap on top of a larger acrylic base to create a rad new fused creation.

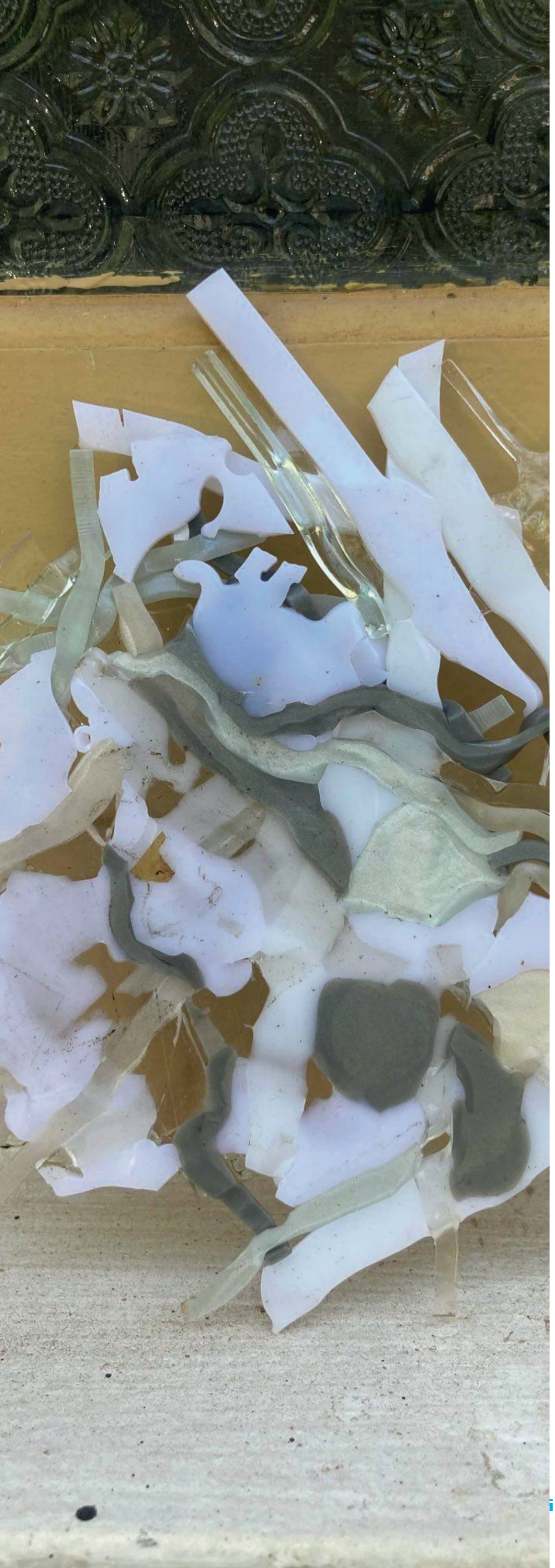
The third attempt used even smaller scraps with a muted pallette (though some of the acrylic had a glittery sheen). I would have loved to see another iteration with a higher volume of small scraps to see if the gaps could get filled in.

Laser cutting and forming plastics

My first day at Dreamspace, I worked with the Collective team to build tools for the laser cutter and fine tuning its power settings.

Laser cutting keychains: HDPE can be laser cut! It is a little melty; the cuts may have a cleaner edge at higher speeds and lower power settings.

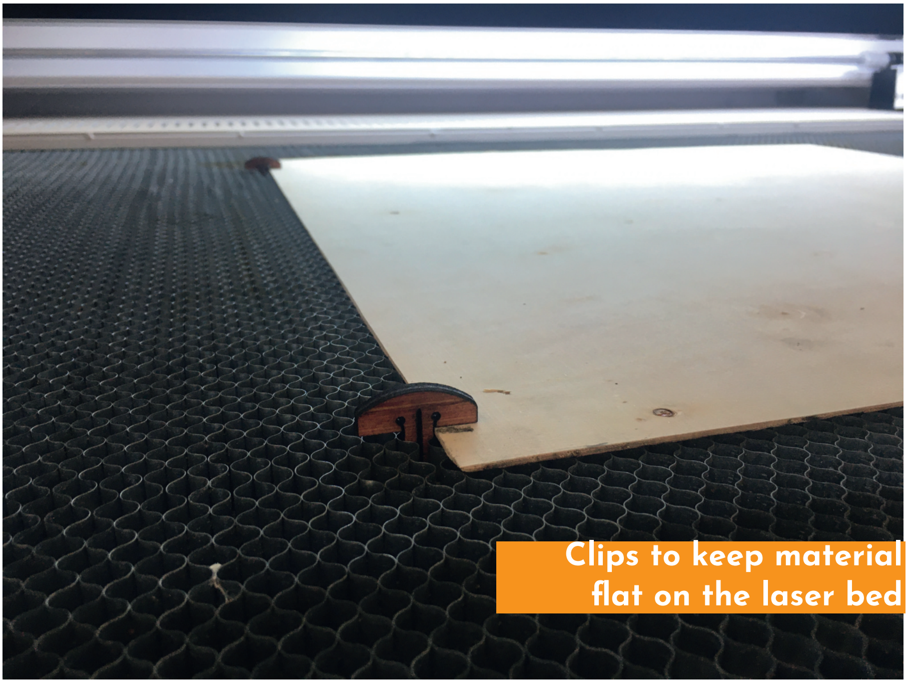
Laser cutting the upcycled acrylic sheets: I left before we could get to this! Very curious to see what Trash for Trade makes with the sheets.



Melted bottle caps stuck to the aluminum plate

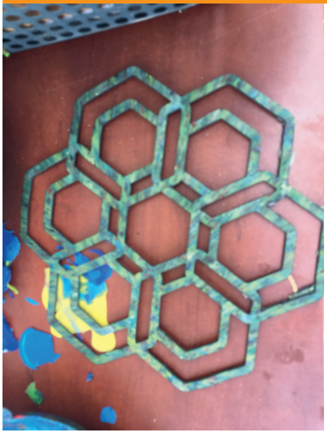
A backpack full of scrap acrylic from a sign & placard shop.

Jathuhan, Sajeev and Paula at the laser cutter.

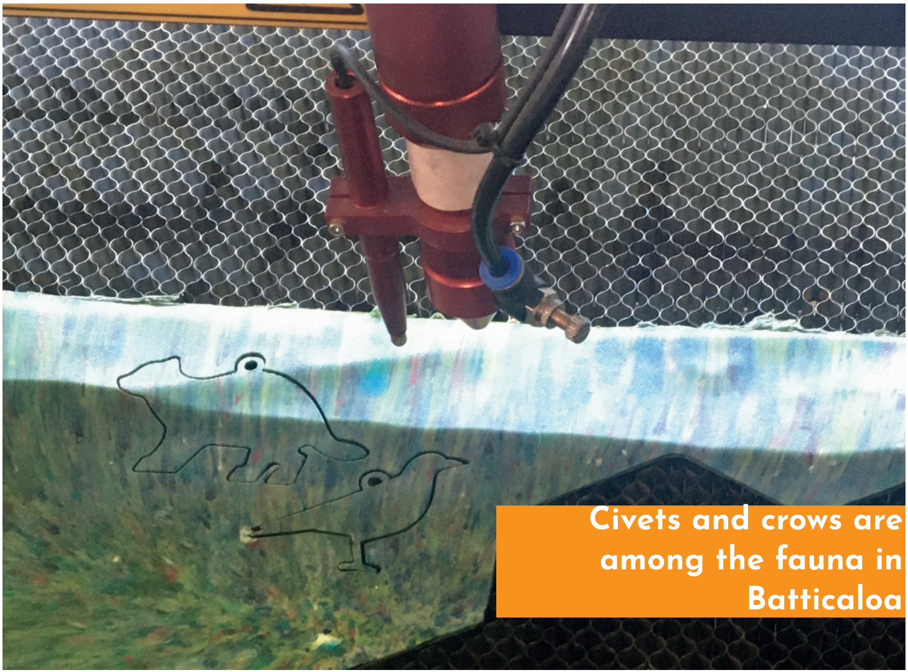


Clips to keep material flat on the laser bed

Cutting and re-forming the HDPE into bowls and lanterns



The upcycled object lives on as a lamp, made by Brian and William



Civets and crows are among the fauna in Batticaloa

ADVENTURES IN IMAGING

LEANDRA TEJEDOR AND JONATHAN HEFTER

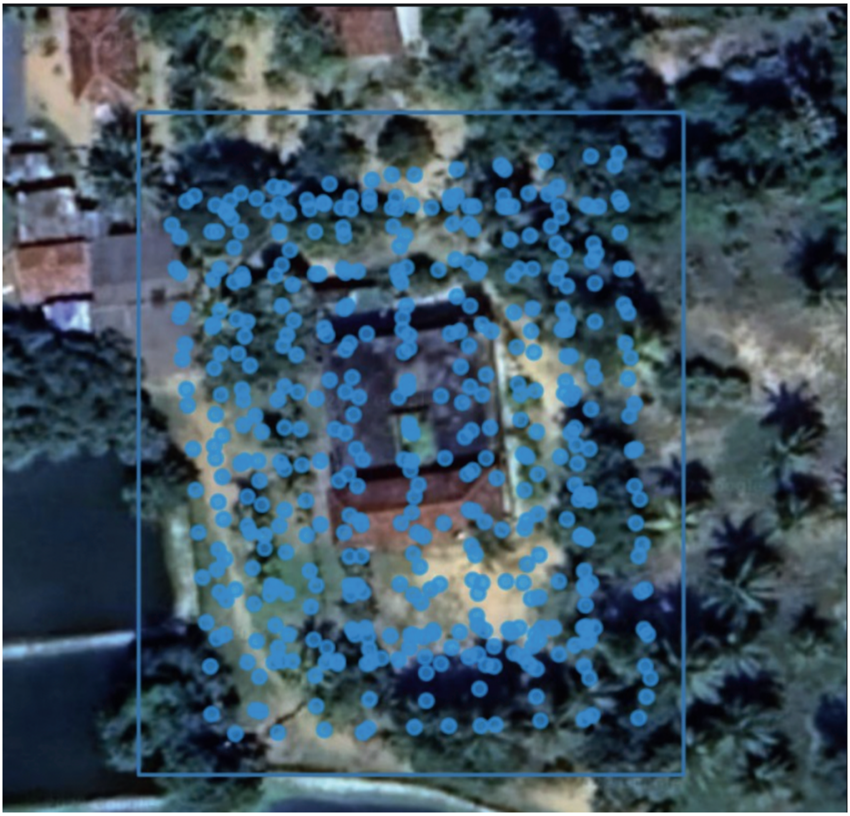
Applying advanced techniques Batticaloa imagery: future, present, and past

PROJECTS

Used drones to map Dreamspace and surrounding Batticaloa

Photogrammetry to scan objects locally and save them as 3-D models

Taught classes on Disco Diffusion (AI text + image to image) and Photogrammetry. Out of that came a secret messaging game, using the properties of "latent space



opposites" to encode secret messages.

RESEARCH PLAN

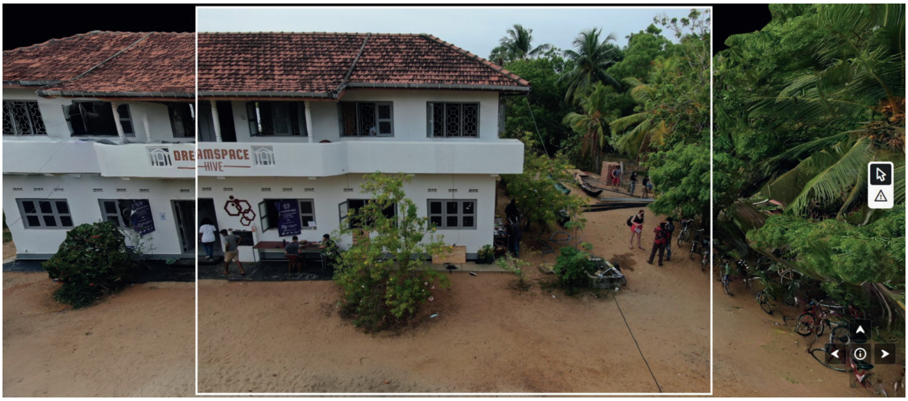
Thing 1:
A 3D map of the Dinacon building

Thing 2:
Primary sources on the history of this area

Thing 3:
Objects to scan

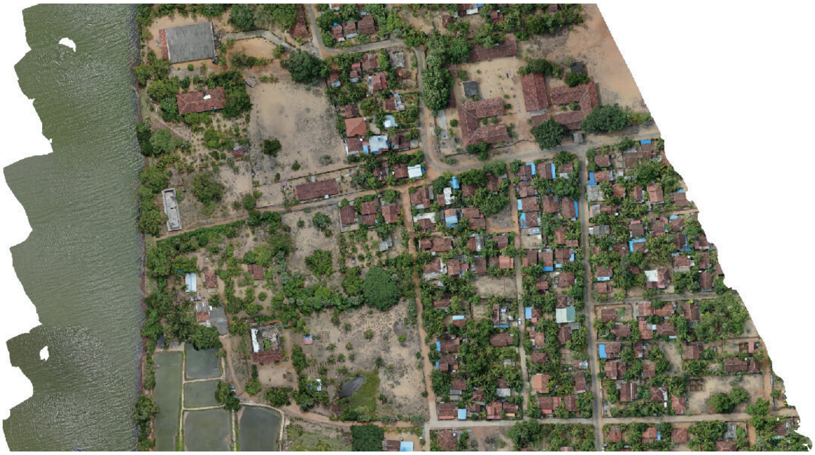
IDEAS:

Get images for photogrammetry from Muslim Museum (and other sites / objects), then use primary sources to recreate the originals or recreate scenes they'd be used in with DD, turn those into 3D model scenes, and place the objects in



We have a lot of straight down map data. Can finetune DD on these, feed in local map data, modify it with DD, upscale, and use to generate imaginary maps

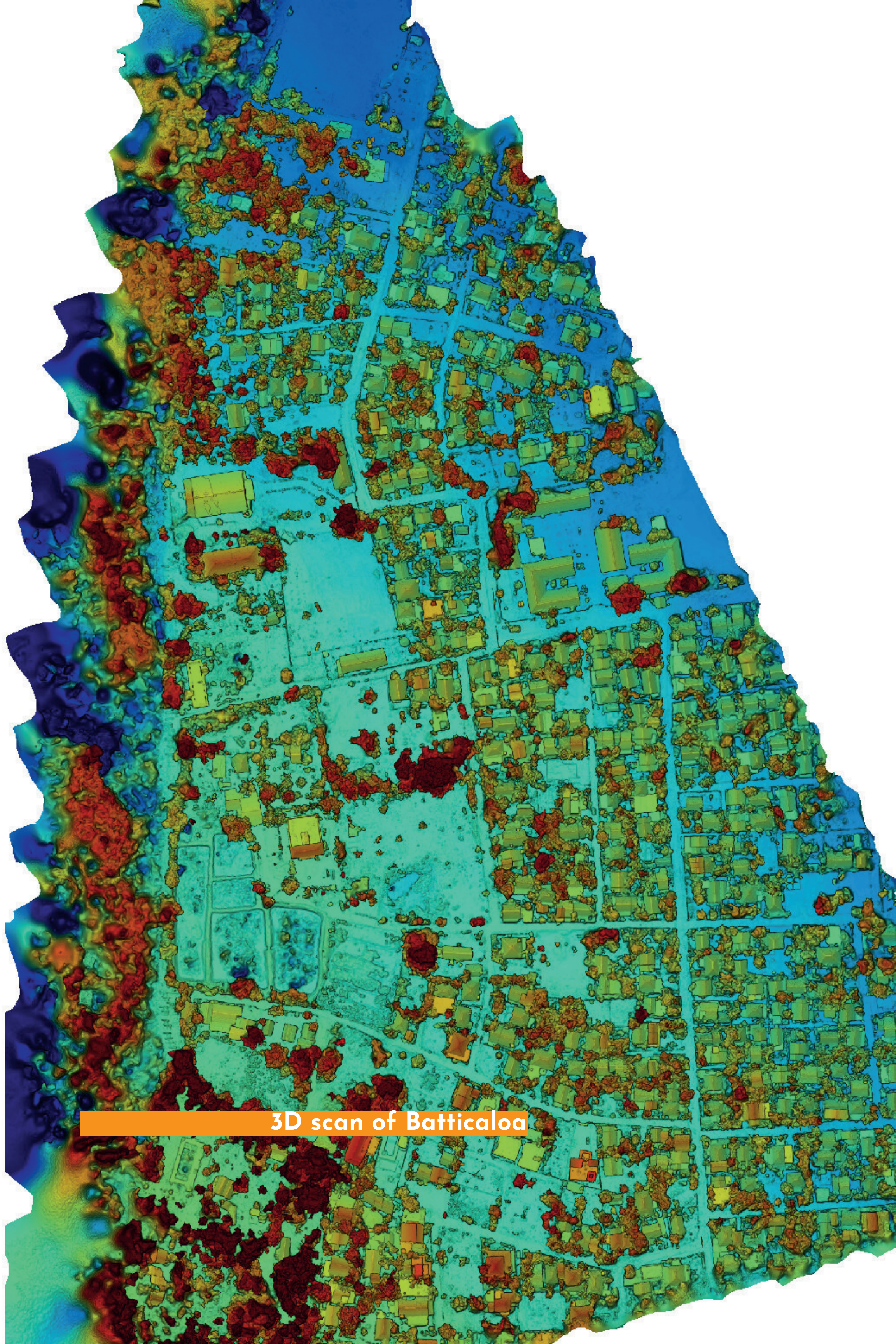
Hundreds of overhead drone images are computed together



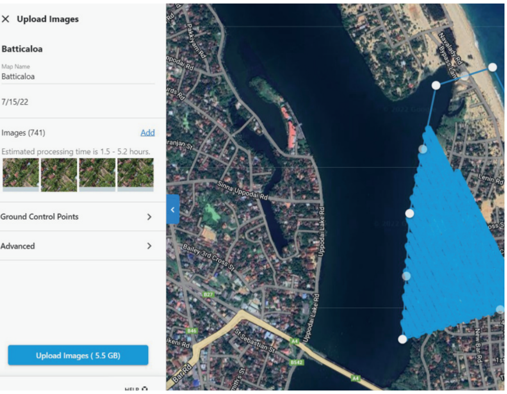
(maybe incorporating local legends, recreating spaces before the tsunami, etc)

INTRODUCTION

With the advent of cheap computing power, widely available high-quality optics, and new developments in artificial intelligence models, there are increasingly



3D scan of Batticaloa



× Upload Images

Batticaloa

Map Name: Batticaloa

7/15/22

Images (741) Add

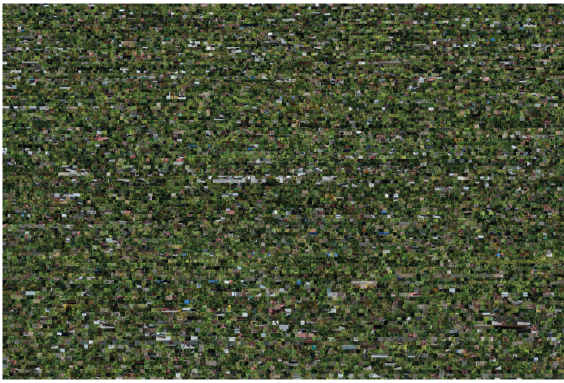
Estimated processing time is 1.5 - 5.2 hours.

Ground Control Points ›

Advanced ›

Upload Images (5.5 GB)

HELP
Sinna Uppodai Rd
Uppodai Lake Rd
Bailey 3rd Cross St
St Sebastian St
Lenin Rd
New Bus Rd
A4
B142



Photogrammetry models of Dream Hive

endless ways to explore spaces with imagery. Using the location and imagery of Batticaloa as inspiration, a number of these methodologies were used both to capture spaces and imagine new ones. Additionally, a series of workshops were held to ensure that each of these techniques were widely available to all attendees and community members.

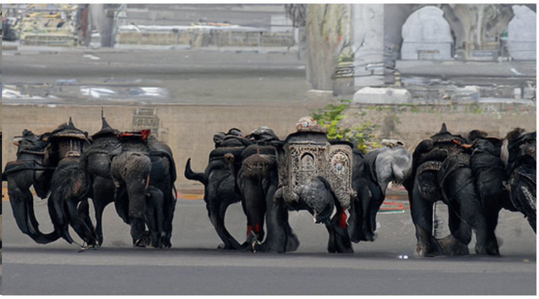
From the Air

Drone imagery was used to capture both Dreamspace Hive and the wider Batticaloa area through aerial mapping and photogrammetry. A DJI Mavic 2 Zoom was used to capture the images flown with automated flight plans created in DroneDeploy. Due to the location's close proximity to Batticaloa International Airport, numerous flight restrictions needed to be observed. In particular, a 60 meter flight ceiling covered much of the area, greatly increasing the number of flights and time necessary for capture. Post-

3D imagery from the ground

capture, DroneDeploy was used both to process the Dreamspace Hive facility, as well as the wider area that surrounds it. Dreamspace also possesses a DJI Air 2 drone, which could have been used, as well, however the automated flight plan feature of DroneDeploy would have been slightly more complicated to use with this particular model.

Elephants from a local Buddhist temple



Prompt: A realistic dslr photograph of a herd of Asian elephants leaving a beautiful temple

From the Ground

For ground imagery, a wide range of objects and spaces were digitized using two distinct methodologies. For most objects, images were captured on either a Google Pixel 6 or Apple iPhone 13 Pro smartphone. Once captured, the photos were uploaded to Polycam Web for processing and exported as object files (.obj).

Additionally, a second workflow was occasionally used to map spaces and large objects utilizing the LIDAR camera on the iPhone 13 Pro. In this workflow, Polycam for iPhone was used to capture both pictures and LIDAR readings. These captures would be processed locally on the phone, resulting in fast, wide-area captures.

VIDEOS:

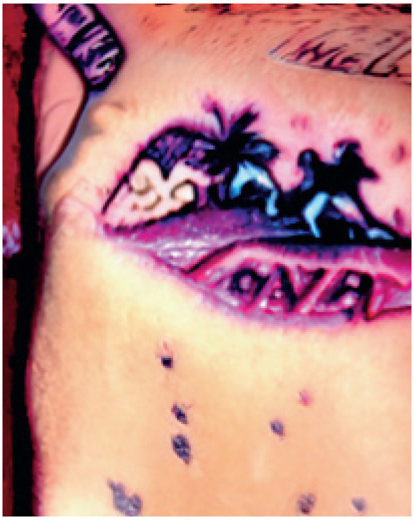
https://drive.google.com/file/d/1GH_uacKYmwJCldxw4GX-KjeYJtnMmp8o/view?resourcekey
https://drive.google.com/file/d/1GGKYi2ZXPg31LRNNQ1LWMoz9WcxDEZ5b/view?resourcekey
https://drive.google.com/file/d/1GGkaauNovHOEEqQD9AiP54W2XF_FcAcg/view?resourcekey

FROM THE MIND

Local images were brought to life, creating real animals from the region with Disco Diffusion. Disco

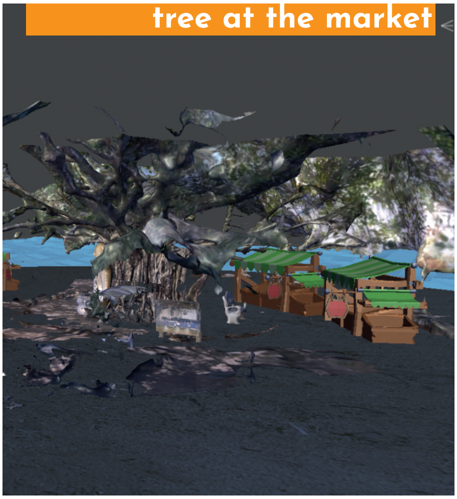
Illustration from the Muslim Museum

Diffusion is an open source tool that takes an image and text prompt as an input and outputs brand new images



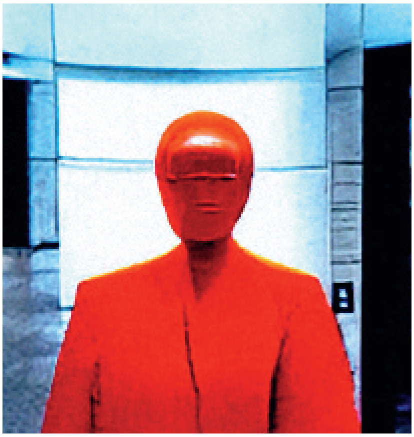
From the Past

Primary sources were used as the basis to transform current day Battilacoa into windows to its past, incorporating machine learning via Disco Diffusion, 3d modeling, and Unity.


tree at the market

Information from the local Muslim museum and the old Portuguese fort was used to recreate a scene of an old (1300’s) market.

3-D models and photographs taken from the area around Batticaloa were assembled into an interactive market scene using Unity. Visitors are invited to walk around the market, seeing both textures and images from current-day Batticaloa as well as relics from the local Museum. The market is placed under a large central tree like it would have been.

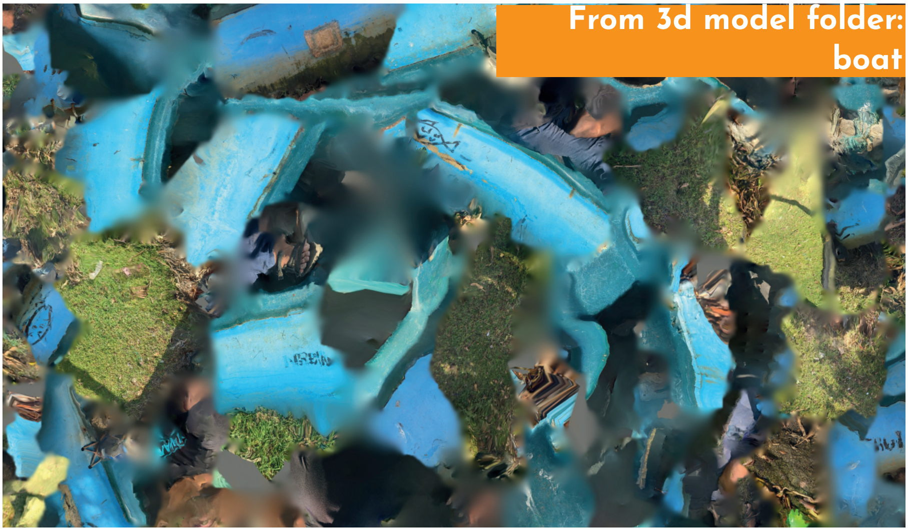


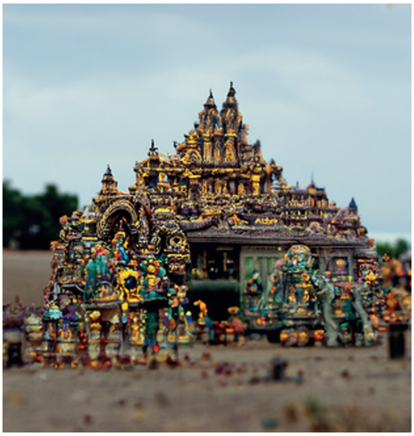
Encryption in Latent Space

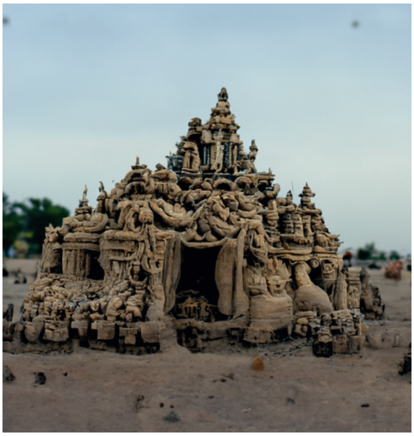
Messages can be hidden in latent spaces that a machine learning models, like Disco Diffusion and Stable Diffusion, search to create images. These “negative latent spaces” can be explored with opposite prompts. In Disco Diffusion, this is done by adding a “:-1” at the end of a written prompt. In the image below, players tried to guess secret images. A player would creat the first image of 3-D filament, then only showed the other players its opposite, the second image. The second player then described that image, searched for its opposite in latent space, and tried to guess the original message.

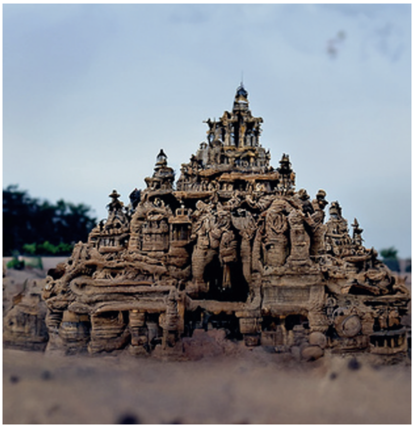
let's make some filament for a 3-d printer
let's make some filament for a 3-d printer:-1
a diseased chest tattoo of 3 mice sailing away from an island in a boat called ova:-1

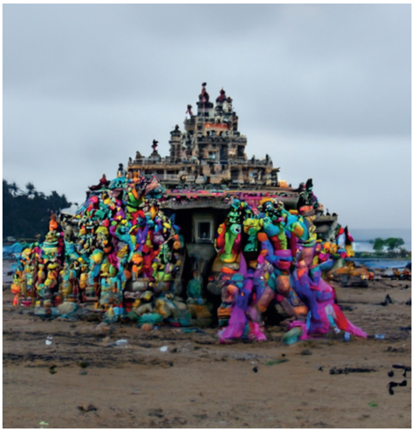
Guesses:
illuminated form emerging from shadow
mysterious red alien goes to church
Lumen traveling through space

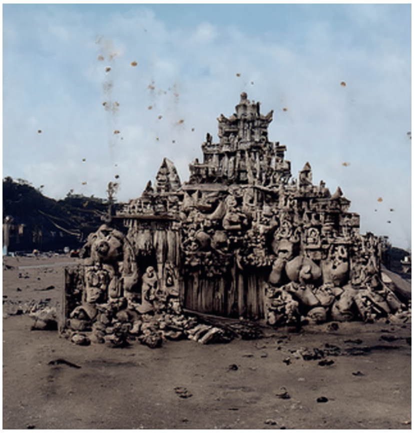

From 3d model folder: boat







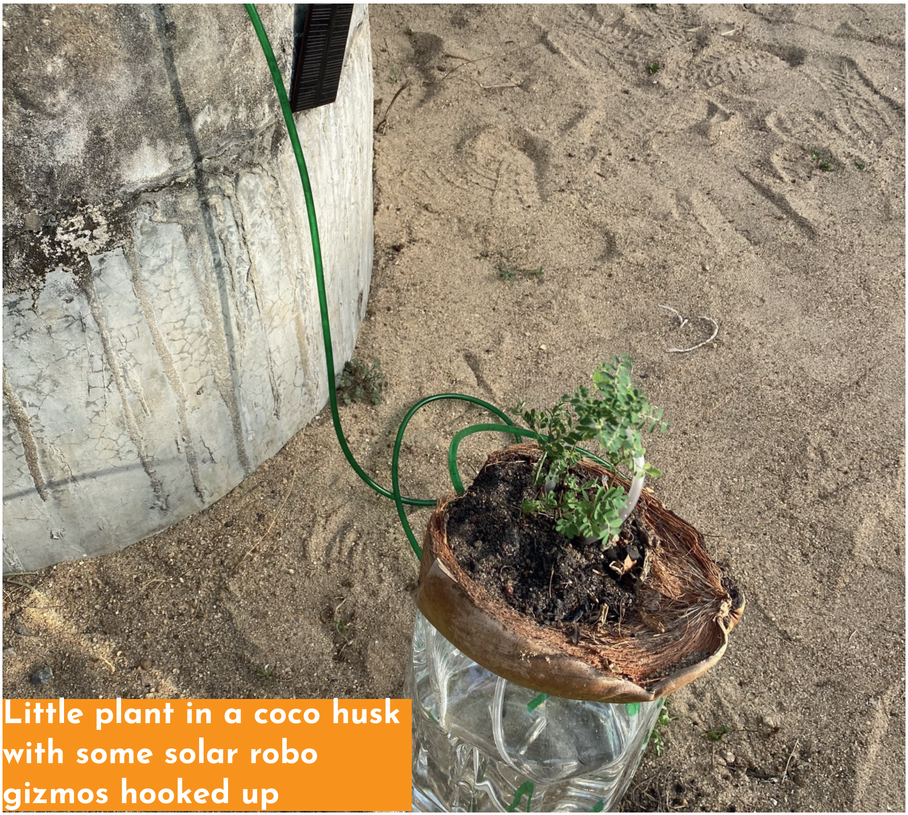




MINISOLARPONICS

FRITZ FRANCISCO

The main idea was to create a small, sustainable recirculatory water system that enables plants to be watered and fertilized by combining a water system and a plant/soil system, as is commonly done in an aquaponics setup. The aquatic system serves as water reservoir and nutrient source for the soil system, as it eventually would contain water organisms such as fish, molluscs or crustaceans which produce detritus and biological waste products. The water in return is



Little plant in a coco husk with some solar robo gizmos hooked up filtered by running over soil and plants which take up the nutrients and assist in clearifying the water. Given that these systems can be difficult to initialize, where the ecosystem must be carefully set up, the project was intended to be modular and extendable to accommodate larger systems as well and be easily scalable.

PARTS LIST

- Arduino Uno
- Motor Controller
- MOSFET
- Electric Air Pump 3.7V
- Diode
- Capacitor
- Solar Panel 12-20V
- Lithium Battery
- Charge Controller (Charge/Discharge)
- Air Tubing
- T-connection for Air Tubing
- Water container
- Soil/Plant container
- Connection wire
- Coconut Husk

SOURCE CODE

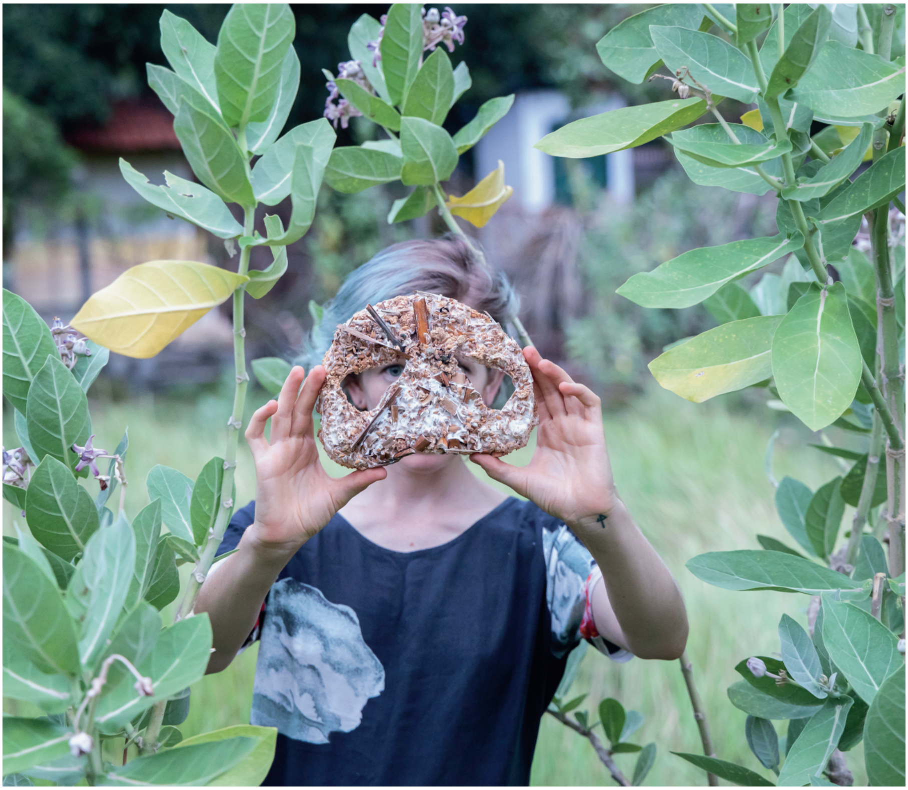
https://github.com/fritzfrancisco/MiniSolarPonics

MYCELIUM MASK

TEGAN RITZ MCDUFFIE

The Mycelium Mask project is an experiment in form & process with mycofabrication for theatrical mask making.

This project was conceived to reinforce the knowledge imparted by Cris Silva and Pramo Saumyamali's workshops on mycelium cloning and mycofabrication offered at Dinacon in Dreamspace Hive's Bio Lab, and to experiment with how the skills could be implemented in the context of performance.Inspired by current readings of Shakespeare's A Midsummer Night's Dream, and conversations with the DreamSpace team around the playwright's cultural

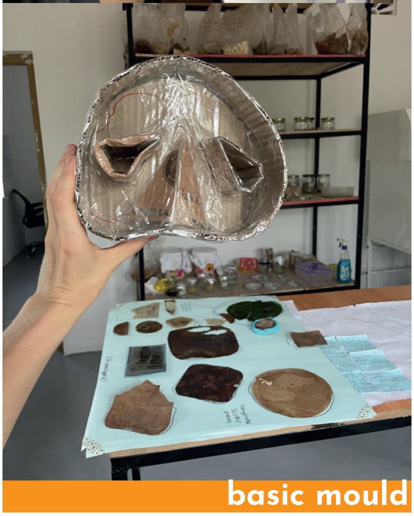


translation into the Sri Lankan educational system, Puck stood out as a playful and relatable character to use for initial explorations. Puck's symbolic significance as an active bridge between worlds, and instigator of human and nature entanglements offered an ideal form to explore in experimental mask making.

The first draft of this project undertaken at Dinacon 2022 included:

basic experimentation in mold making; harvesting substrate materials from the local environment to provide the mycelium with a food source to grow;

Tegan preparing a section for cloning during the mycelium workshop



basic mould

Harvesting local materials

selecting spore type (Sample 6, an unidentified spore type collected near Dreamspace Hive and cultivated by Cris Silva; sterilizing instruments and materials; careful layering the mold with substrate (grasses, sawdust, and grain colonized by mycelium spore) inside the protection of a vertical laminar flow hood; and patiently waiting for 10

Sample 6
15.07.2022

Sample 6 spore

Sterilizing instruments and materials

days while the mycelium sufficiently colonized the materials and filled out the mold form.

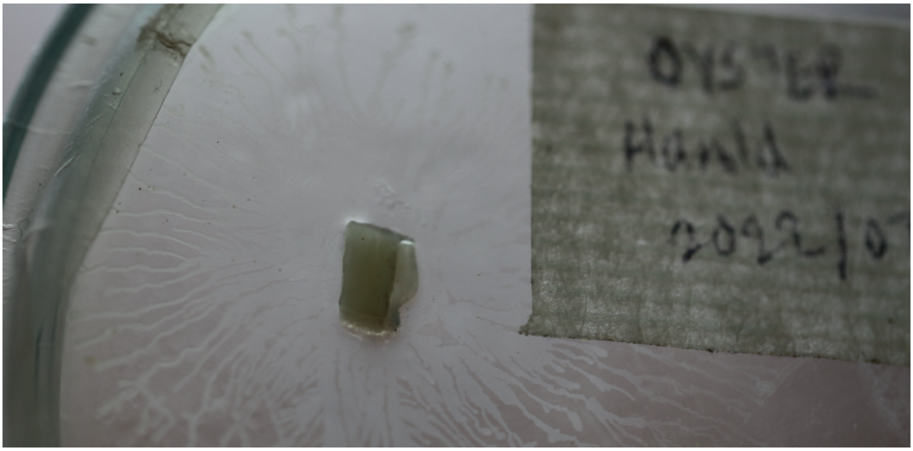
The results of the first draft successfully created a distinctive mask-like form with visual variation and distinct detail.

Further development could include detailed interpretations of the source text to amplify themes of biodiversity and root/mycelium communication systems in order to build out a collection of character-based masks aimed at articulating a thriving multi-species pageantry.

Layering mold with substrate

For practical use, the form would need to be fine-tuned to fit the performer's features and performance style, as well as undergoing adjustments for health and safety standards as well as durability, given the material's organic nature.

The method explored in this project has the potential to bring together scientific and creative approaches for ecologically-informed performance practice and theatrical design.

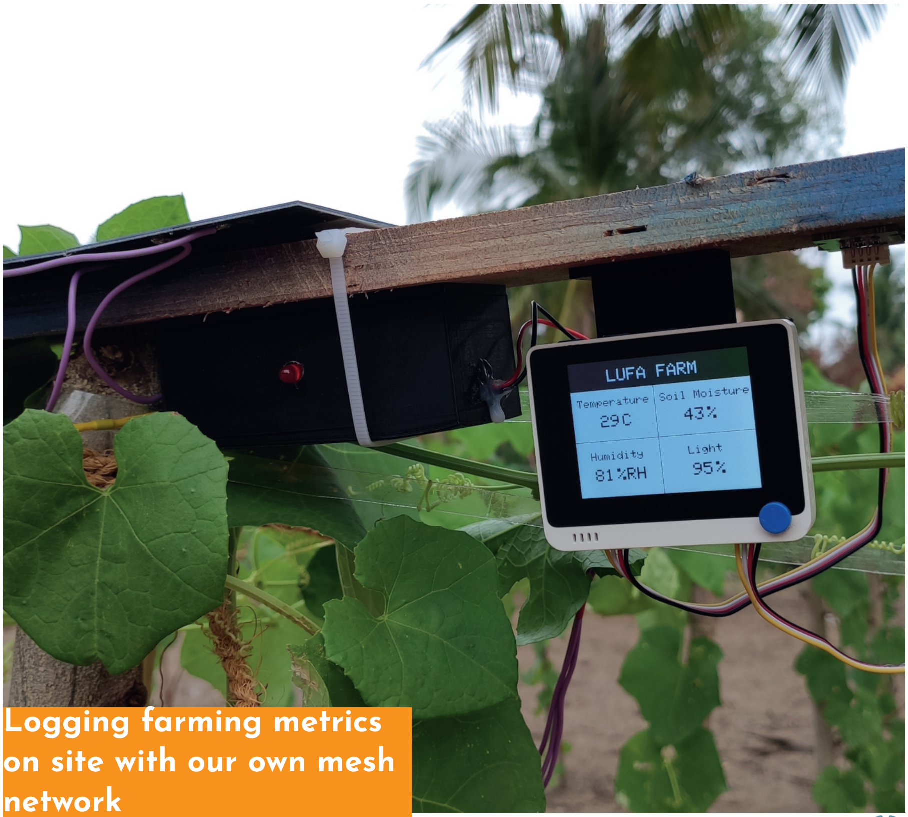

OYSTER
Hania
2022 10

SMART FARMING WITH LORAWAN

LAKSHANTHA

DIY IOT enabled farming on a minimal budget

After scouting through the surroundings of DreamSpace Hive, I came across a Luffa farm and decided to make it 'IoT-enabled" by hooking up several environmental sensors such as a temperature/ humidity sensor, soil moisture, and a light sensor to an Arduino-based microcontroller (Wio Terminal). Then came the challenge of sending this sensor data to the cloud for visualization. Since communicating via WiFi means you have to deploy the sensors within

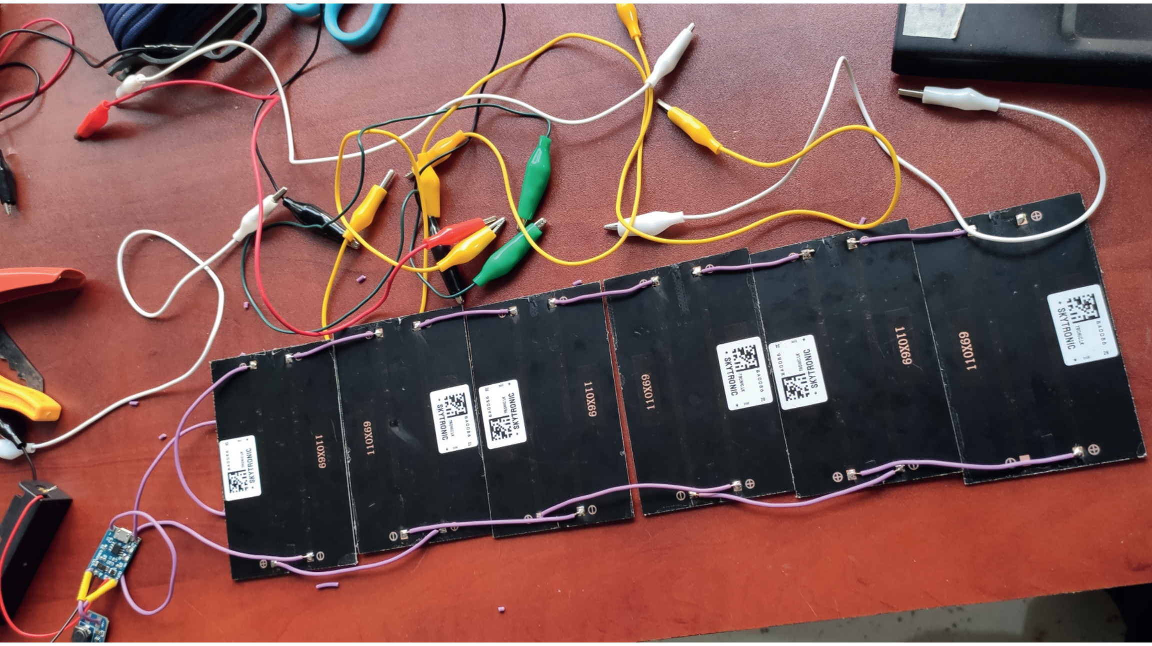


Logging farming metrics on site with our own mesh network

somewhat close proximity to a WiFi router, the other option was to use GSM. However, I went with using LoRa because it enables communication over very long distances. The sensor data from the sensors were sent to the cloud via a LoRaWAN gateway and the data was visualized on a dashboard. Also, the entire outdoor system was powered by solar.

I set up a SenseCAP M2 LoRaWAN Gateway inside the DreamSpace Hive and was able to receive enough signal strength for the sensors that were set up in the Luffa farm which was located a little bit far away from the gateway. Also, this meant anyone at Dinacon was able to experiment with their own LoRa nodes by connecting with this gateway.

Batticaloa, Sri Lanka 2022

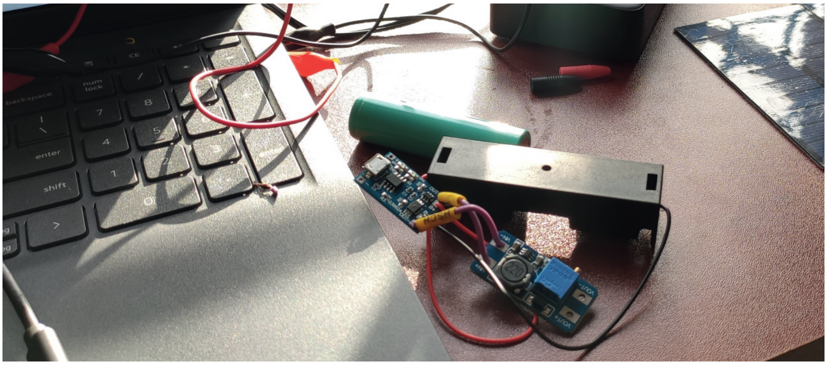

110X69
SKYTRONIC

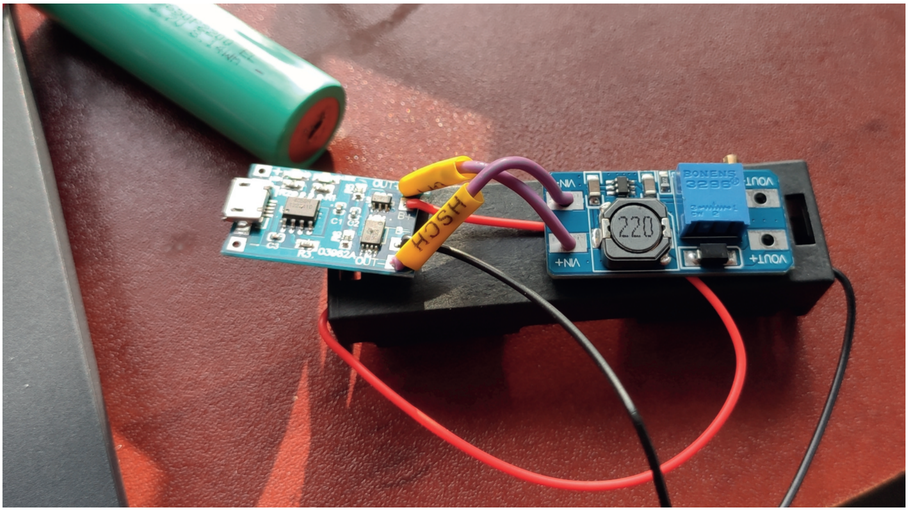
All the solar panels were connected in parallel to obtain a total power of 5v/600mA

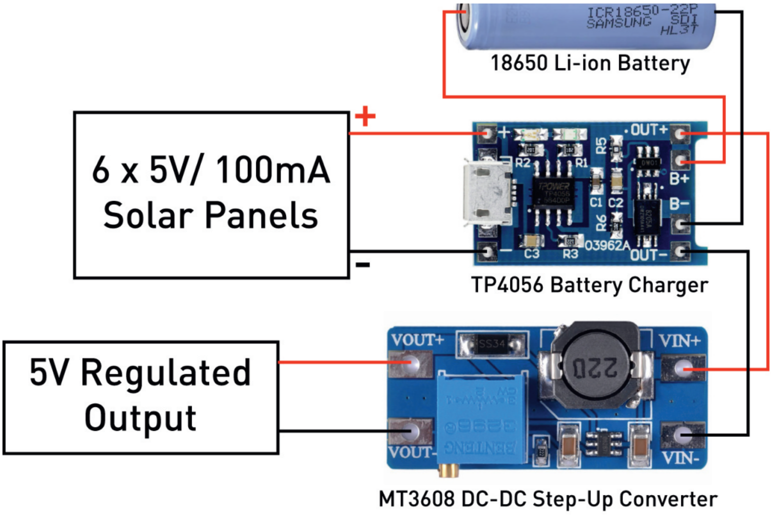
MAKING PROCESS

First of all, I had to make my project powered on all day long but there was no power outlet near the Luffa farm. So the only option to power it continuously was to use solar. So I hooked up 6 small solar panels (5V/ 100mA each)

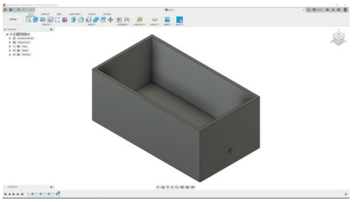
After that, I prepared a simple circuit with a TP4056 battery charger, a 18650 battery, and an MT3608 DC-DC Step-Up Converter. The idea was to connect the 18650 Lithium-ion battery to the TP4056 battery charger and connect the solar panel to the TP0456 so that the solar panel will be able to charge the 18650 battery. Also, an MT3608 DC-DC Step-Up Converter

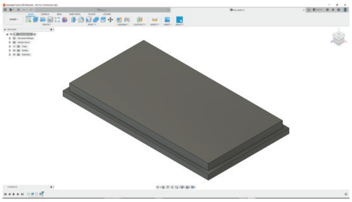


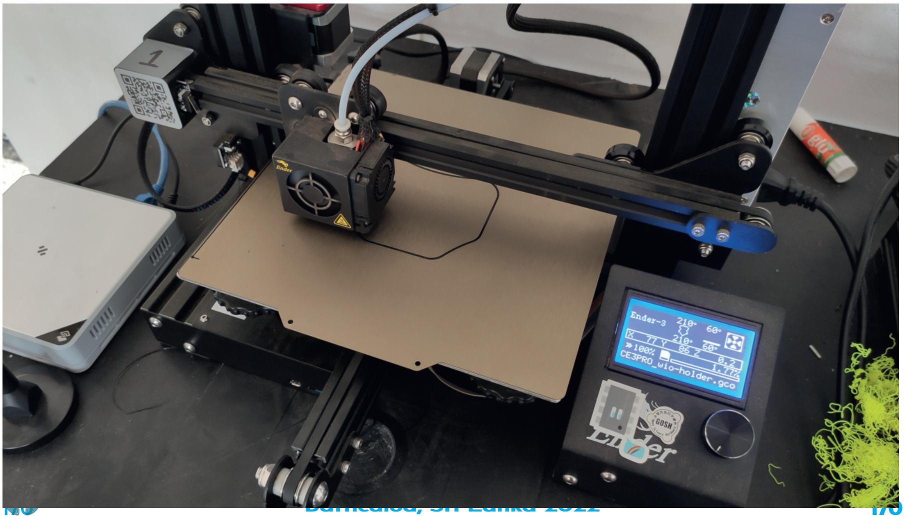



ICR18650-22P SAMSUNG SDI HL3T
18650 Li-ion Battery
+
6 x 5V/ 100mA Solar Panels
-
OUT+
B+
B-
OUT-
TP4056 Battery Charger
5V Regulated Output
VOUT+
VOUT-
VIN+
VIN-
220
MT3608 DC-DC Step-Up Converter

was used to keep the output voltage at 5V because the goal was to power the Wio Terminal using a regulated 5V input supply. After testing, I found out that even if the input to this converter changes from 2.7V - 4.2V, the output stayed at 5V. 2.7V is the voltage at which the TP4056 will cut off the battery from discharging and

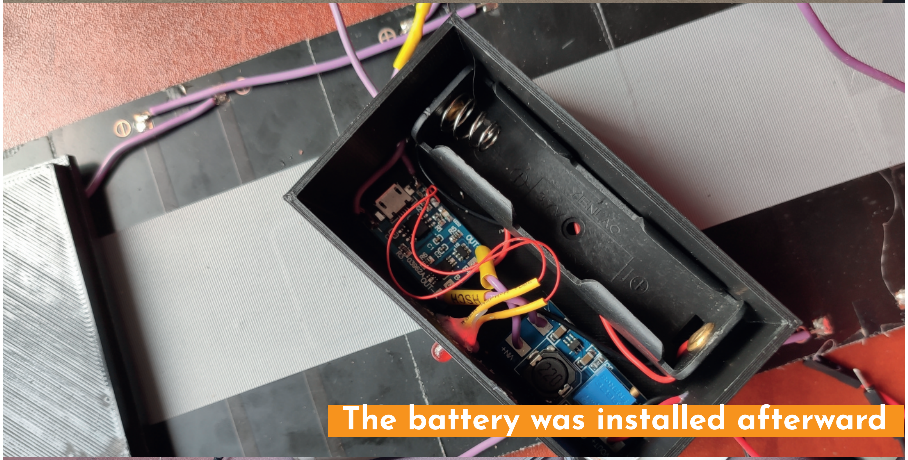




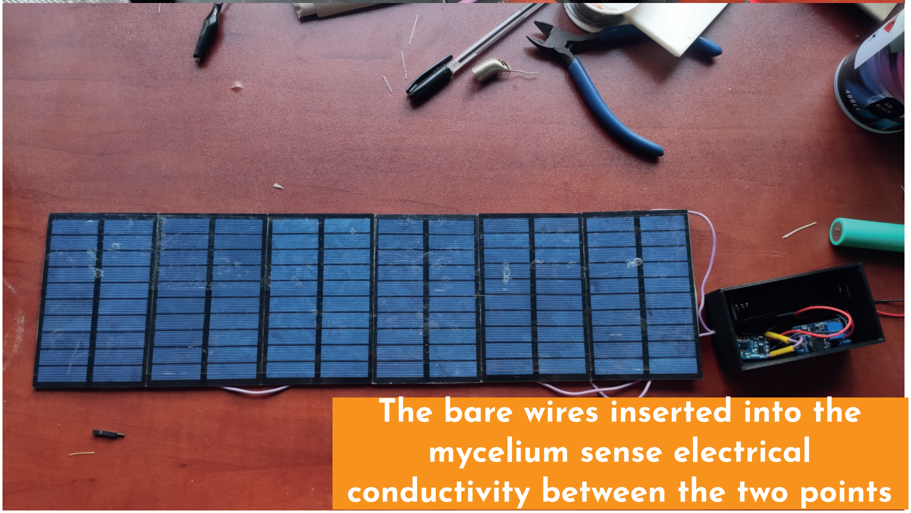

Ender-3
CE3PRO_wio-holder.gco
GOSH
Ender

4.2V is the fully charged state of the battery.

After soldering all the connections, I had a finished circuit. However, I thought of having an enclosure for this as well since it will be exposed outside. So I

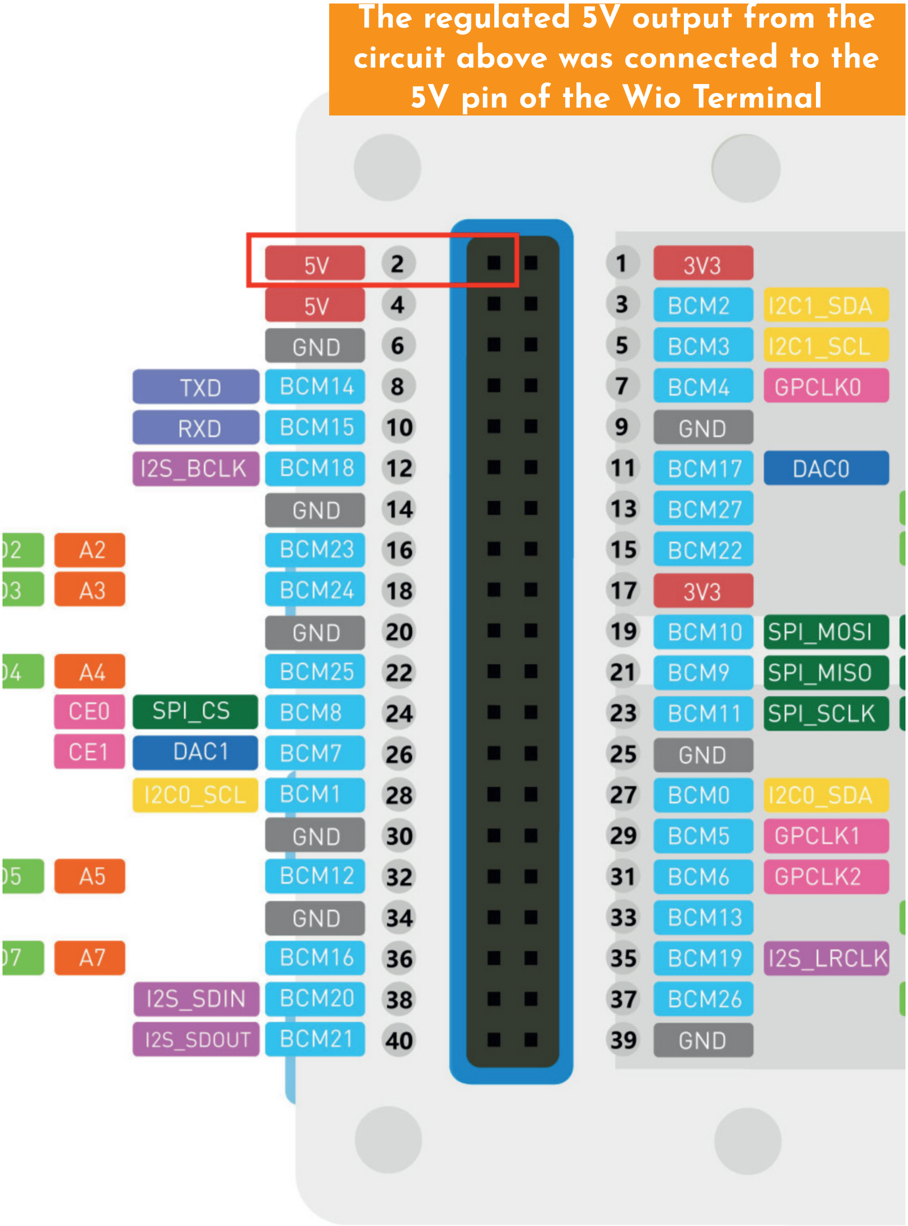


The battery was installed afterward



The bare wires inserted into the mycelium sense electrical conductivity between the two points designed a simple box with a cover using Fusion 360 and 3D printed it!

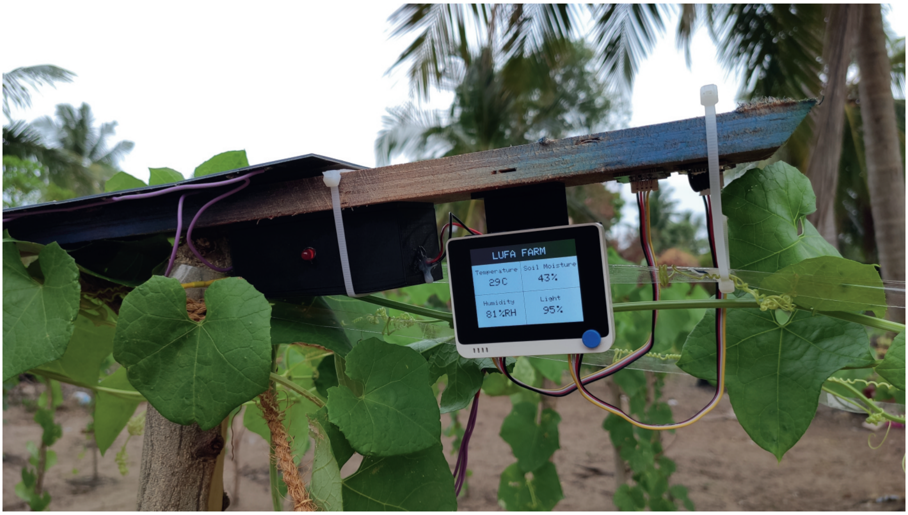
Also, I had to 3D print a small hanging structure for the Wio Terminal to hang from the wooden plank.

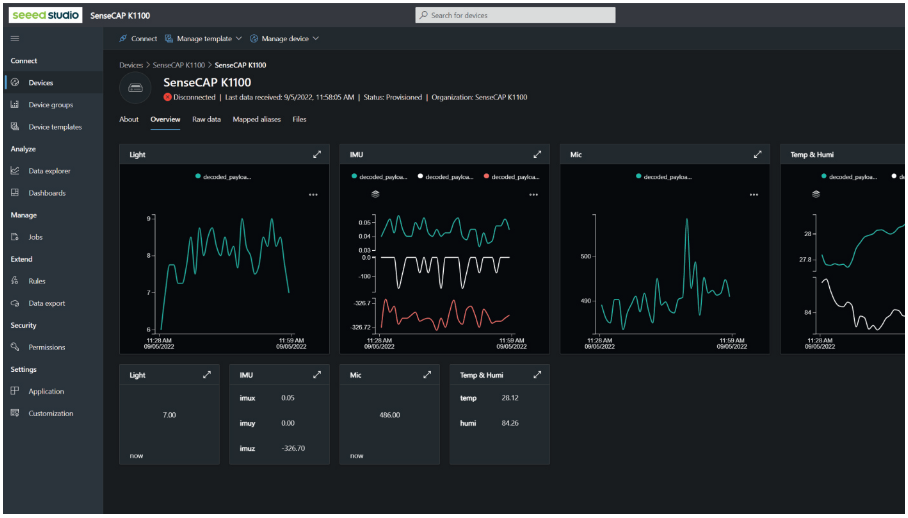


The regulated 5V output from the circuit above was connected to the 5V pin of the Wio Terminal

5V 2
5V 4
GND 6
TXD BCM14 8
RXD BCM15 10
I2S_BCLK BCM18 12
GND 14
A2 BCM23 16
A3 BCM24 18
GND 20
A4 BCM25 22
CE0 SPI_CS BCM8 24
CE1 DAC1 BCM7 26
I2C0_SCL BCM1 28
GND 30
A5 BCM12 32
GND 34
A7 BCM16 36
I2S_SDIN BCM20 38
I2S_SDOUT BCM21 40
1 3V3
3 BCM2 I2C1_SDA
5 BCM3 I2C1_SCL
7 BCM4 GPCLK0
9 GND
11 BCM17 DAC0
13 BCM27
15 BCM22
17 3V3
19 BCM10 SPI_MOSI
21 BCM9 SPI_MISO
23 BCM11 SPI_SCLK
25 GND
27 BCM0 I2C0_SDA
29 BCM5 GPCLK1
31 BCM6 GPCLK2
33 BCM13
35 BCM19 I2S_LRCLK
37 BCM26
39 GND

After the box was printed, I placed my connected circuit inside the box. Also, the inbuilt charge indicator LED on the TP4056 board was replaced by a bigger


LUFA FARM
Temperature
29C
Soil Moisture
43%
Humidity
81%RH
Light
95%


seeed studio
SenseCAP K1100
Search for devices
Connect
Manage template
Manage device
Connect
Devices
Device groups
Device templates
Analyze
Data explorer
Dashboards
Manage
Jobs
Extend
Rules
Data export
Security
Permissions
Settings
Application
Customization
Devices > SenseCAP K1100 > SenseCAP K1100
About
Overview
Raw data
Mapped aliases
Files
Light
decoded_payloa...
9
8
7
6
11:28 AM 09/05/2022
11:59 AM 09/05/2022
IMU
decoded_payloa...
decoded_payloa...
decoded_payloa...
0.05
0.04
0.03
0.0
-100
-326.7
-326.72
11:28 AM 09/05/2022
11:59 AM 09/05/2022
Mic
decoded_payloa...
500
490
11:28 AM 09/05/2022
11:59 AM 09/05/2022
Temp & Humi
decoded_payloa...
28
27.8
84
11:28 AM 09/05/2022
Light
IMU
Mic
Temp & Humi
now
now

SenseCAP K1100

Disconnected | Last data received: 9/5/2022, 11:58:05 AM | Status: Provisioned | Organization: SenseCAP K1100

Light: 7.00

IMU: imux 0.05, imuy 0.00, imuz -326.70

Mic: 486.00

Temp & Humi: temp 28.12, humi 84.26

LED which is exposed outside to clearly check the charging status of the battery.

Then the connected output from the MT3608 was connected to a Wio Terminal which was also connected to a temperature and humidity sensor, LoRa transceiver, and a soil moisture sensor. After doing a little bit of programming, the entire system was deployed at the Luffa farm.

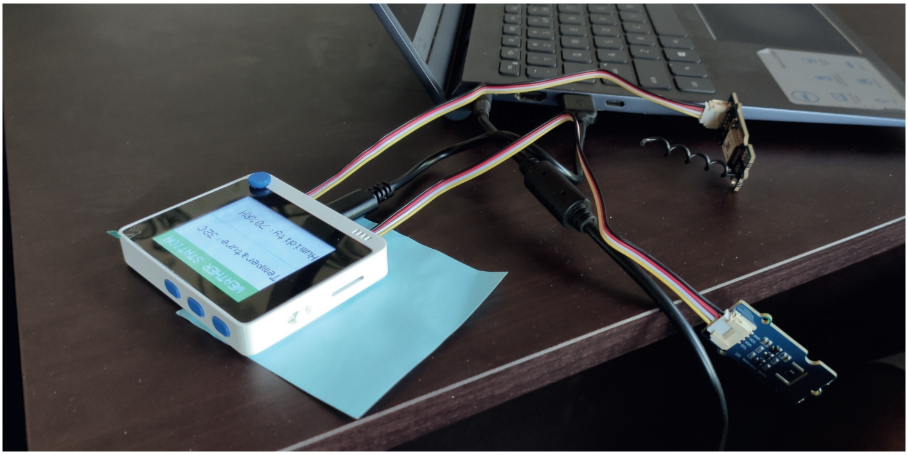
Finally, all the data from sensors were sent to the LoRaWAN gateway setup at DreamSpace and then that data was pushed to the Helium LoRaWAN network server. After that, the data was sent to Azure IoT Central to easily visualize on graphs!

LoRaWAN with Arduino Workshop

I also conducted a workshop to teach about how to use a microcontroller, connect environmental sensors, code using Arduino and send sensor data to a LoRaWAN gateway!

For this workshop, I used a SenseCap LoRaWAN Dev Kit in combination with a SenseCap M2 LoRaWAN gateway and taught the attendees how to use the Wio

Terminal (Arduino-based microcontroller) to view the data from a connected temperature and humidity sensor on the in-built LCD, send the obtained data to the SenseCAP M2 LoRaWAN gateway and then to the Helium LoRaWAN network sever to visualize the data on dashboards!


WEATHER STATION
Temperature : 32C
Humidity : 70.0%

Making the bikes unique

SOLFM

LIBI ROSE

The goal of this project was to build a solar-powered short-range analog FM transmitter from scavenged parts taken out of broken AM and FM transistor radios, to equip it with a simple microphone, and to place it where it could listen to the "natural" environment but also to the people moving around that environment. It would broadcast that sonic landscape to any person tuned to the right signal on an FM receiver. The idea was to highlight the fact that human presence affects

the world in both sensed and unsensed ways, and the presence of a body affects the functioning of an antenna as much as it affects the soundscape. The radio functions as a sort of artificial organism, beholden to the sun for energy to continue "living" and carrying out its daily activities (listening and transmitting what it hears) and serves as a stand-in for non-human biological organisms that we interfere with, for better or worse, everywhere we go.

I gave myself the constraint of using as little gear as possible to scavenge for parts from the old boards (just solder braid, an iron and basic pliers, no ovens or blowers like I would use in my lab) but I also gave myself a backup in the form of kit boards that were the same circuit I intended to build, in case of some misfortune.

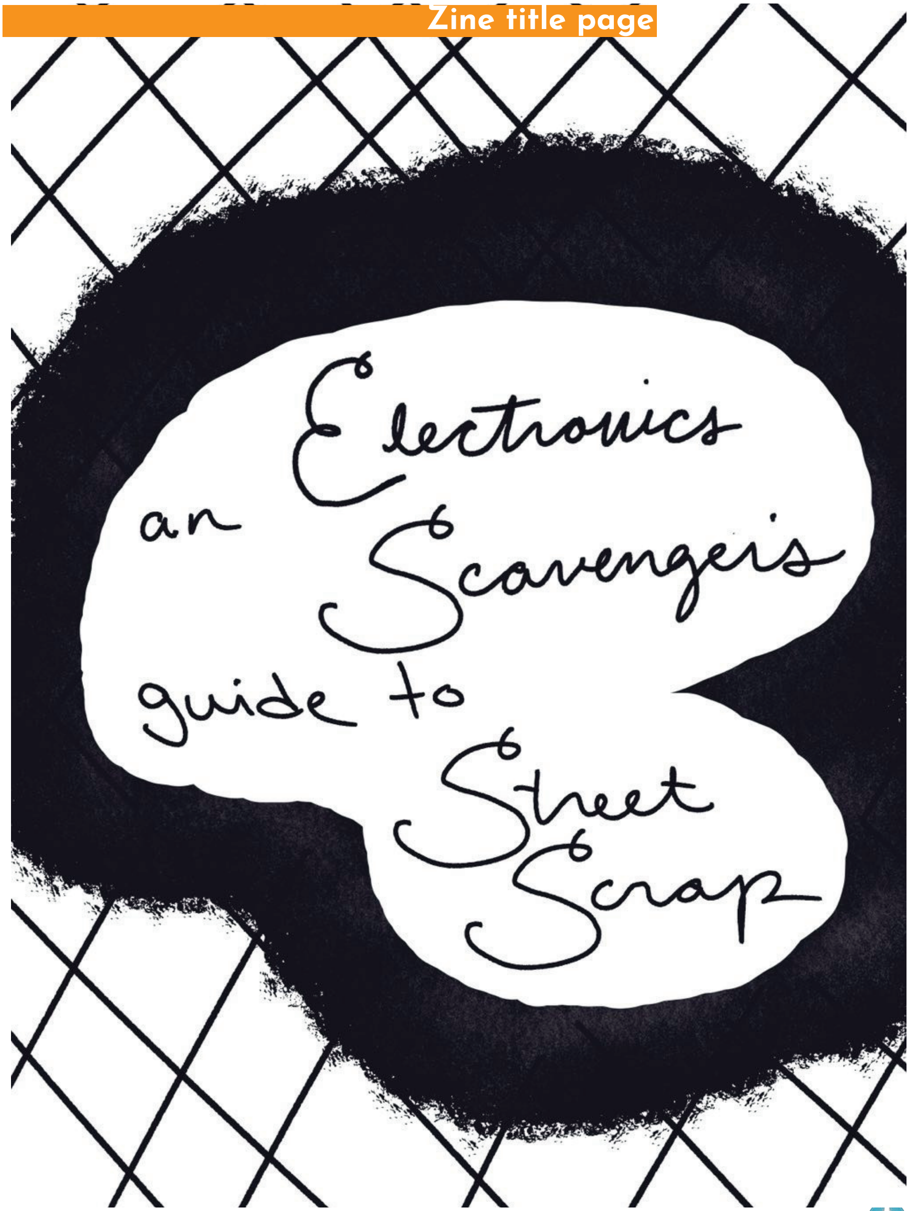
What ended up happening was a sort of 3-fold project: a still-in-progress field guide to minimalist scavenging of useful parts from broken tech, the intended solar-powered FM transmitter, and an ad-hoc collaborative performance between myself and William's solar powered analog bird.

The three parts:

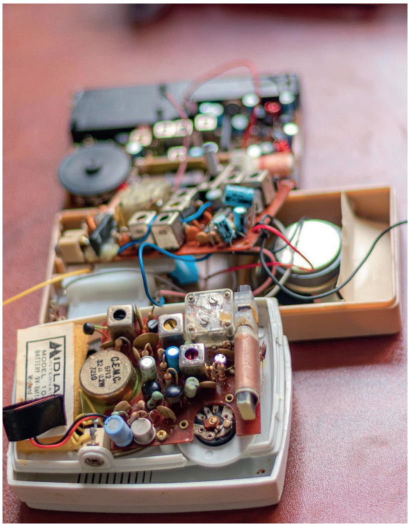
Working to dissassemble the boards with minimal gear proved challenging, mostly because of power outages and multiple broken soldering irons. But that difficulty just spurred the idea to create the field guide zine.

Learning to determine what is and isn't useful from a

Zine title page

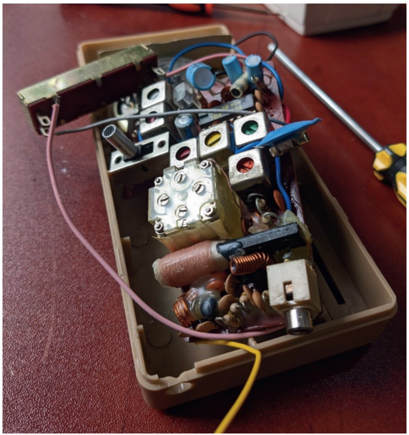

an Electronics Scavenger's guide to Street Scrap

piece of broken tech is an important skill in a world that increasingly requires all of us to consider use and re-use carefully, and learning to remove it safely is equally if not more important. Some of the useful parts separated from the radios:



The field guide will be in ongoing development with the Media Archaeology Lab, and will be tested with volunteers and students for usability before publishing.

here's a dissassembly in progress and me being slightly exasperated:



I assembled the kits I brought along as a backup because of the difficulties with disassembly.

Once the kits were put together I got the circuit running off of solar cells - fortunately straightforward. I scavenged those mostly from solar powered garden lights and fountain pumps, so they're pretty ideal for areas with unforgiving climates. Scavenging usable parts from discarded consumer tech is an extremely cost-effective way to get not only parts but also fully functioning circuits that can be integrated into projects - often with less effort and better results than building things fully from scratch.

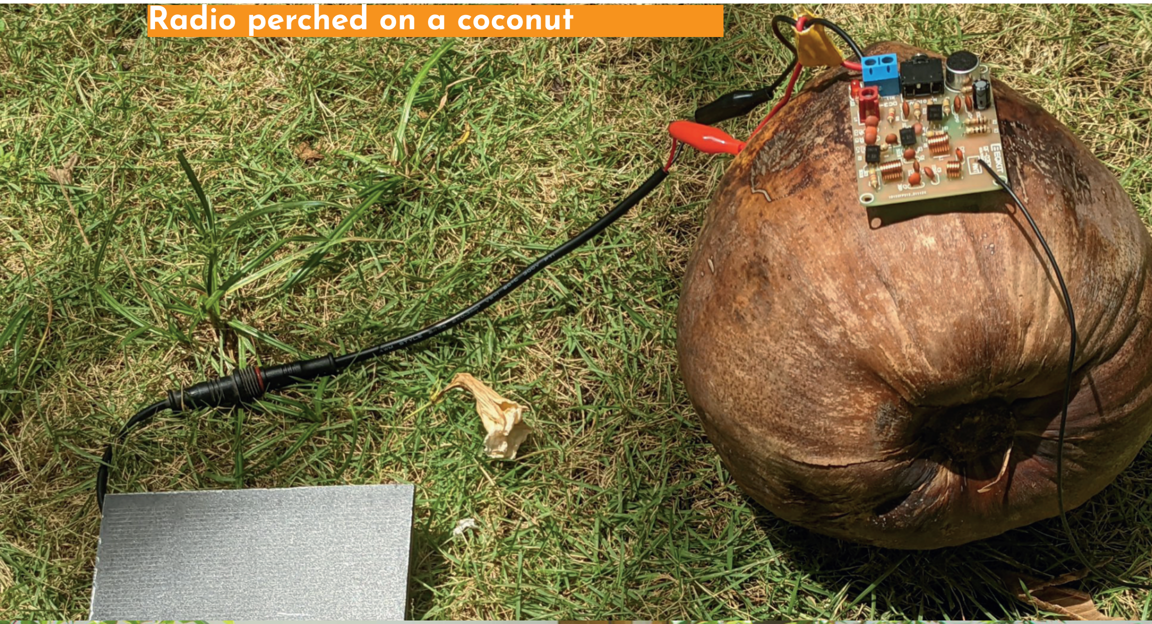
Once the kits were assembled and tweaked to appropriately take power from solar rather than a DC power supply or battery, they worked beautifully. The signal strength was even more dependent on the strength of the sun than expected, which was an

Here I am finishing up the kit:

excellent discovery and really added to the overall feeling of tenuous aliveness that the radio had.

The performance with William came about when we were both toying with our solar-powered projects and realized that we could make them talk to eachother. William's project's speaker was placed directly beside the transmitter's microphone and we were able to pick up that transmission on the receiver from a pretty

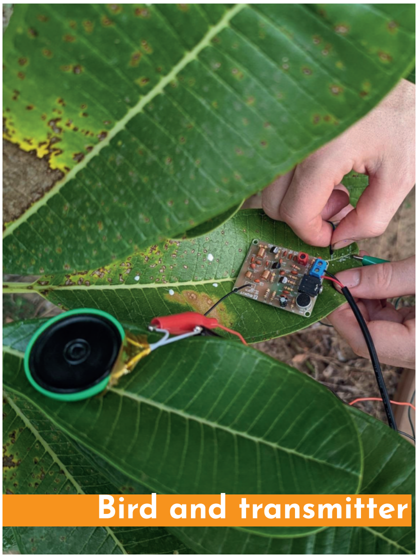
Radio perched on a coconut



Tweaking the signal:

significant distance - inside the building at DreamHive from across the yard. The projects were shown together perched on a plumeria in the yard for the open house.

Ultimately a really fun way to play with the attributes of both projects.



Bird and transmitter

William and Libi tinkering

DINACON 2022

Technical details:
The circuit diagram I worked from was published in Radio Is My Bomb and has been published on Tetsuo Kogawa's website along with instructions and parts lists. The analog circuit kits I adjusted for use follow the same basic circuit as Kogawa's simplest FM transmitter, and required only adjustments to the power jack to work well with the solar panels. I did swap out a resistor for a lower value in the power line but that was probably ultimately unnecessary.

Dinasaurs on their way to Dreamspace

SONIC OAR

ASHLIN ARONIN

ORIGINAL PROJECT DESCRIPTION

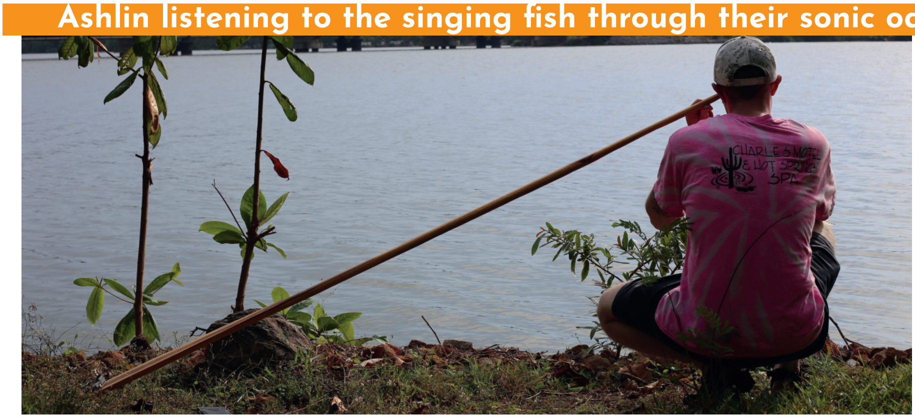
I'd like to explore the lagoon of Batticaloa and record the sounds of the singing fish with a hydrophone, then create an installation in a public area so everyone can listen to them. I read that local fishermen put the ends of their oars in their ears to amplify the sounds of the fish, so I'd like to incorporate oars into the installation to pay homage to this practice.

HOW IT TURNED OUT

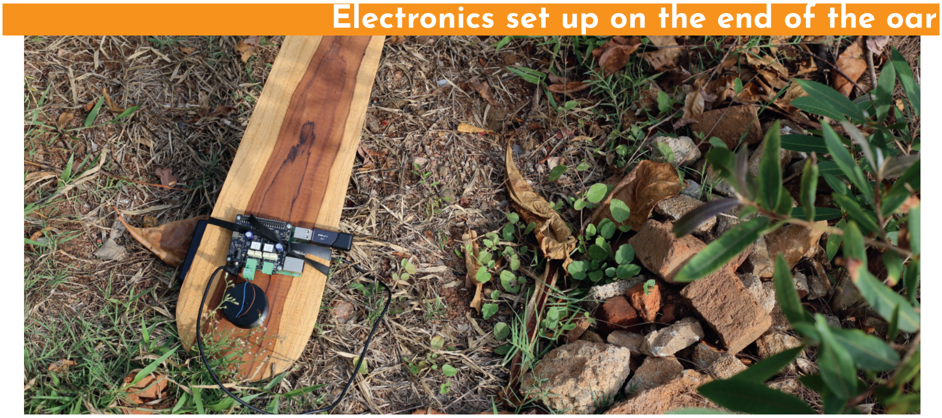
Due to the logistical situation on the ground, I had a bit less time than anticipated to finish my project. However, with help from a few friends I succeeded in creating the Sonic Oar.

I had heard that the singing fish were loudest and most active just around the full moon. Though I arrived about a week after that, I found the fish still active around 10pm each night when I started recording. I didn't do particularly scientific research to determine exactly when they started and stopped, since my project focused on the sounds themselves more than their behavior.

One night I recorded off one of the fishing platforms at the Riviera Resort, dipping my hydrophone just a few feet into Batticaloa Lagoon. It was amazing how



Ashlin listening to the singing fish through their sonic oar



Electronics set up on the end of the oar

immediately their gargling, froggy croaks became audible. There were obviously many fish vocalizing simultaneously. However, with a monophonic hydrophone it was hard to localize how many fish there were or how far apart they were. It would be fun to come back with a stereo pair of hydrophones to get a better sense of how they are moving or not moving and how spaced apart they are. I'll be bringing a pair of hydrophones on my next underwater recording project!

The next night Lucii and I followed in the footsteps of J.W. Lange and recorded from Kallady Bridge. From the middle of the bridge, we lowered the hydrophone about 15 feet below the water, noticeably deeper than at Riviera. The fish were audible, but there was more background noise from traffic on the bridge, even at that depth. We tried another spot towards the eastern side of the bridge, and the fish were much quieter – in fact, barely audible.

Creating the sonic oar installation itself turned out to be quite simple. I learned from my experience at Dinacon 2 in Gamboa that power is one of the most crucial components of any hacking project. Since I wasn't sure exactly what would be available in Batticaloa, I brought a battery pack and all the cables and electronics I needed with me. All I needed to do was record the singing fish, load up the recordings onto an SD card, find an oar, and attach the electronics to the oar.

I also learned that when using a Raspberry Pi for media playback purposes, it is helpful to set up a script so that you can load new media files via an SD card without having to boot up and connect to the Pi. Here's a gist that explains my Raspberry Pi set up. I ultimately included a playlist featuring one of the recordings Betty had made at the full moon from a boat, along with one of mine made from the shore at Riviera Resort.
Electronics set up on the end of the oar

The basic setup for the electronics was a Raspberry Pi with a IQaudio DigiAMP+ hat on it, a 12V battery (behind the oar in the photo above) powering the amplifier and a Surface Transducer from Sparkfun. A startup script on the Pi played back audio files from an inserted SD card, and the sound was amplified through the DigiAmp+ hat and sent through the surface transducer, which turned the surface of the oar into a speaker.

The surface transducer was attached to the blade of a local fishing oar, that I was told was made of mango wood. This was a happy surprise for me, since mango is known for its resonance and is used to make some musical instruments.

Once I got the electronics set up, I was able to hear the recordings through the wood for the first time. I was surprised at how well the sounds transferred through the surface. I used a set of in-ear binaural microphones (which record sound in a way that mimics how our ears do) to record myself listening to the resonance. The audio from this recording is included below, with a video of me listening.

Ashlin listening to the sounds of the singing fish

Overall, I'm pleased with how this project turned out. I think it pays homage to the beauty and ecological curiosities of Batticaloa in a simple way. I wish more people could have experienced the installation, but hopefully this documentation makes it accessible to a few more. Thank you to Shanjeevan for procuring the oar, without which this project wouldn't be possible. Thanks to Betty for the additional singing fish recording, and thanks to Lucii, Skye, Harold and Andy for their help with installation and moving things from place to place!

THAALAM RIDDIM REAPERS

RIDDIM REAPERS

A series of three consecutive workshops made in collaboration with DreamSpace Academy Music Lab that drew on dancehall ‘riddim’ culture to introduce participants to digital music production tools and techniques. In the first session led by Luci, participants were introduced to field recording, using audio recorders and smart phones to collect sounds from around the Hive. Participants then edited these sounds into loops using the Digital Audio Workstation (DAW) Reaper, chosen because of its accessibility and flexibility. These loops were then uploaded to a common sample bank. In the second session, led by Sumugan, participants were introduced to Reaper’s grid function and MIDI capabilities in order to build up their looped field recordings into arrangements with a free VST drum machine (Sitala) and synthesizer (Synth1). In the third session, led by Brendy, participants were reminded of the joys of collective music making, and went on to use MIDI keyboard controllers and recorded vocals to develop their

sequences.

The workshop produced a common folder of samples, MIDI arrangements and working files that participants can continue to use and remix. Unfortunately a follow up session about free and open source DJing tools was canceled, nevertheless the software Mixxx was installed on the Music Lab's computer and a 'ragga starter' kit of music and tools was donated to the lab.

Thaalam Riddim Reapers seeks to continue on after DINACON by developing a networked community around its common sample bank, riddim exchange and remixing practices.

HTTPS://LINKTR.EE/THAALAMRIDDIMREAPERS

தாளம் [THAALAM]

Riddim Reapers

a 3-day Music Production Workshop

Join Brendy, Luci and Sumugan as we learn basic audio recording and composition with a Digital Audio Workspace.

7.23
Wednesday
10am-1pm

- Audio Recording
- Sampling
- Basic audio editing

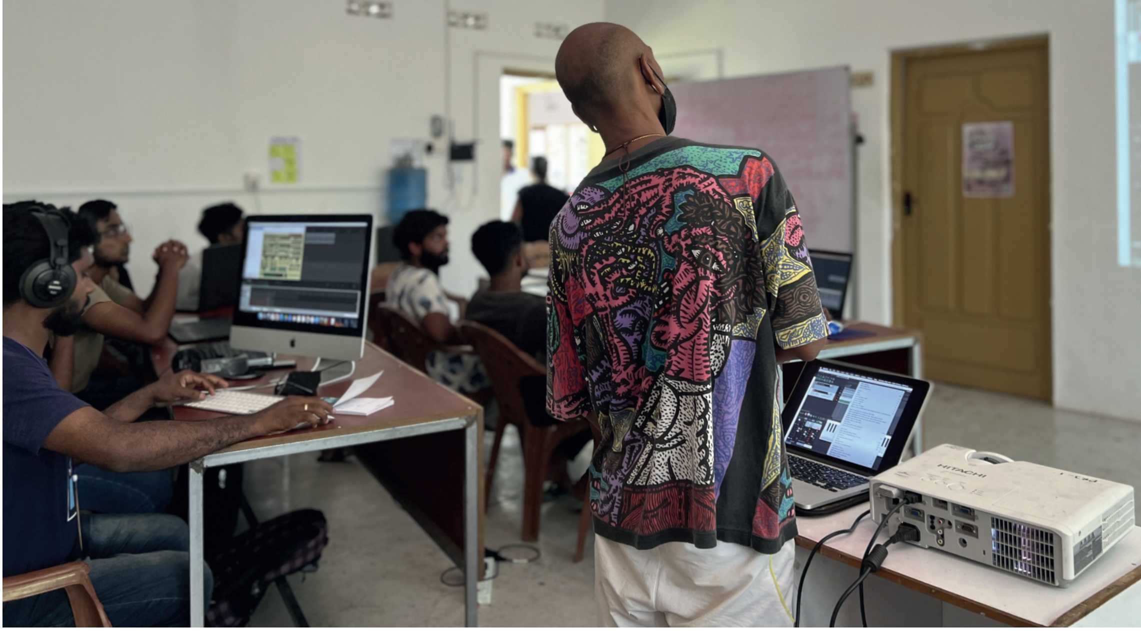
7.24
Thursday
10am-1pm

- Intro to MIDI
- Software Instruments
- Using your DAW

7.25
Friday
10am-1pm

- Composition
- Mixing 101
- EQ-ing

Please follow link for pre-class downloads:
https://linktr.ee/ThaalamRiddimReapers


HITACHI

Luci

TRASH TO PAPER

DAPHNE U-ĐỔ, SID DRMAY, DINOJ MAHENDRANATHAN , AFKAR SUBAIR, JATHUJAN MAHENDRAN, JERUSHAN SRITHARAN, JEREMY NGUYEN, AMRUTHA FERN, MONICA RIKIC, AND CABANA HACKERS

The Trash to Paper project utilized local waste to form sheets of paper. Fiber was sourced from cardboard rolls, bottle labels, and scrap documents from recycling bins. We gathered leaves and grasses from

paper with embedded petals <3

burn piles around Riviera Resort and Sid collected fallen coconut husk from the coconut graveyard. The fibers were sorted and blended into a slurry during our papermaking workshops. Participants pulled their own sheets and explored other potential ingredients that could be upcycled into paper with a focus on redefining waste as a raw material.

Shredding and tearing scraps

By Dinacon 2022 and Dreamspace Collective:

my favorite destination to procure 'Cool Water' branded bottle labels

Daphne U-đo led coptic bookbinding workshops, Sid Drmay co-hosted the papermaking workshops, Dinoj Mahendranathan sourced drying boards, Afkar Subair sourced mosquito netting, Jathujan Mahendran and Jerushan Sritharan and Jeremy Nguyen fabricated additional mould + deckles, and Amrutha Fernando prepared fiber for pulping.

Pulp dream team

the lid of the blender was broken, this is not my usual blending posture

DIFFERENT TYPES OF PLASTIC
PET
PVC
PHYSICAL PROPERTY

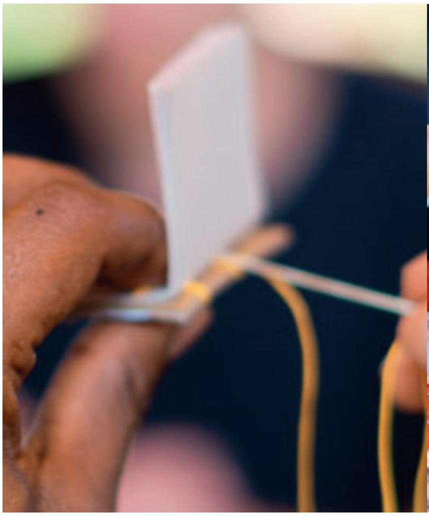
Supply List: Sponge/Towel, Storage Tub, Blender, Mould + Deckle, Fiber (e.g. plants, rags, scrap paper,

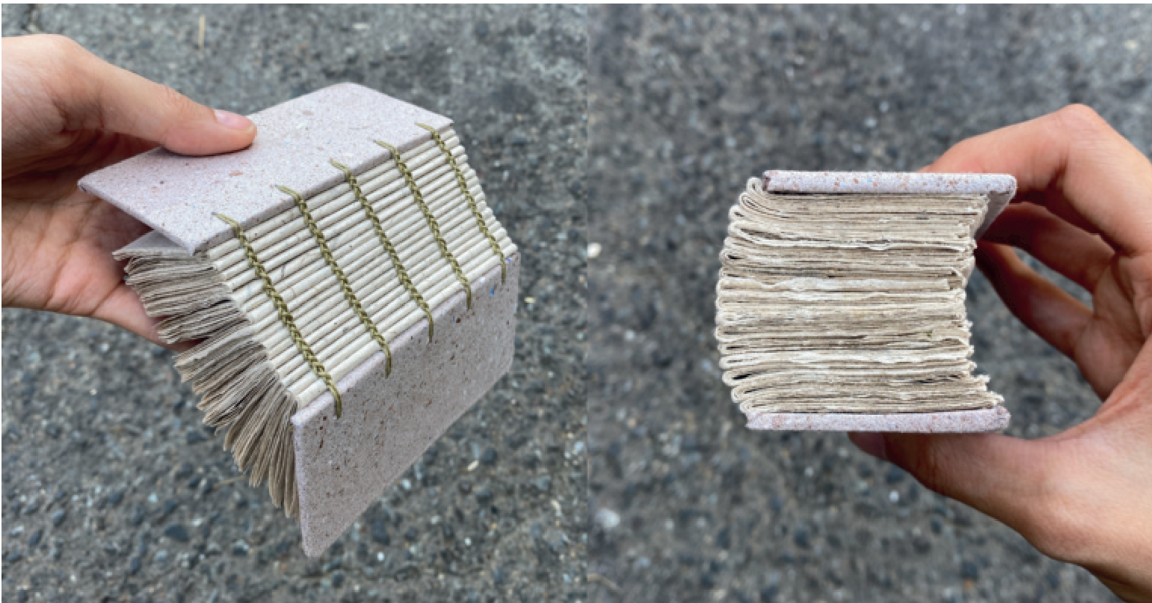
cotton, linen, banana peels, newspaper, flowers, denim, magazines, corn husk, envelopes, seaweed, yarn)

Thank you for reading! much love,

Daphne U-đo (@daphneudo)

P.S. Thank you Andy for organizing The Digital Naturalism Conference 2022, Sid for co-hosting a papermaking workshop with me, and literally everyone at Dinacon and Dreamspace Collective for the opportunity to work on this project!

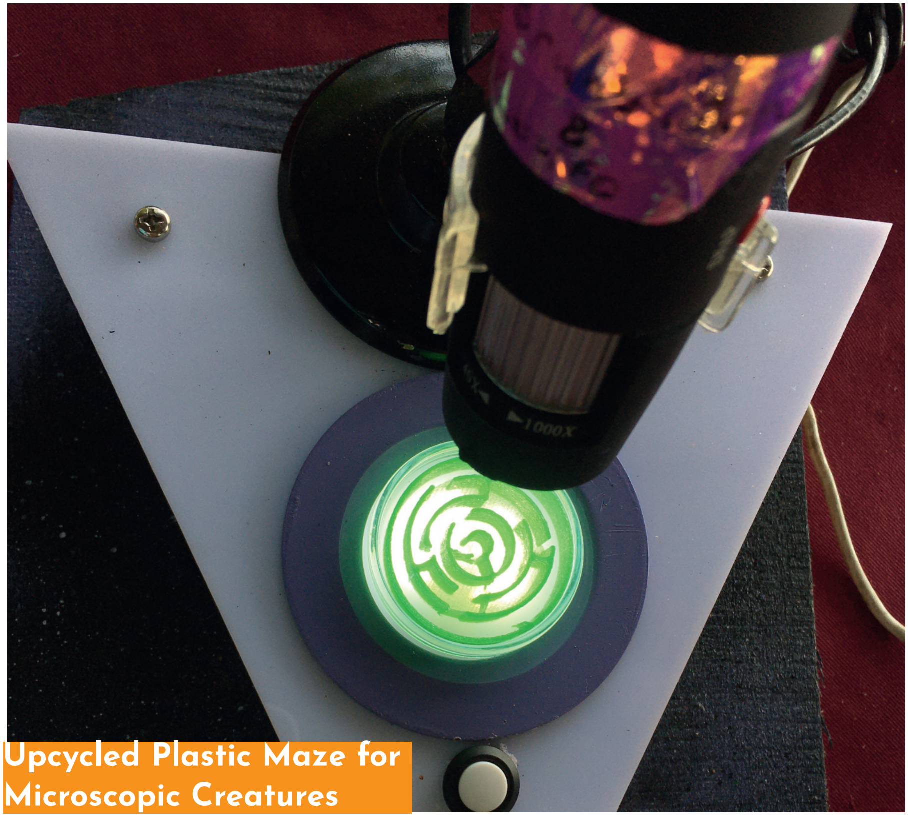




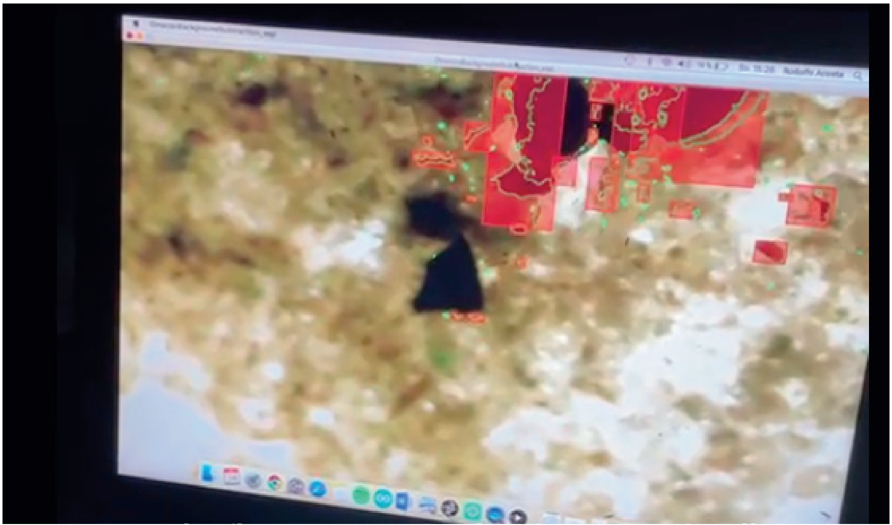
USB MICROSCOPE + LABYRINTH + OPENCV

LEONIE AND RODOLFO

Experiment with remains of plastic, wood and a modified USB-microscope. Rodolfo and Leonie used Processing and an Open CV library to analyze the image of muddy water. They also print a tiny labyrinth for a petri-dish with recycled filament out of a 7up bottle! (Thanks to Andrew for the recycled filament). The goal is to eventually make a video game for tiny creatures.

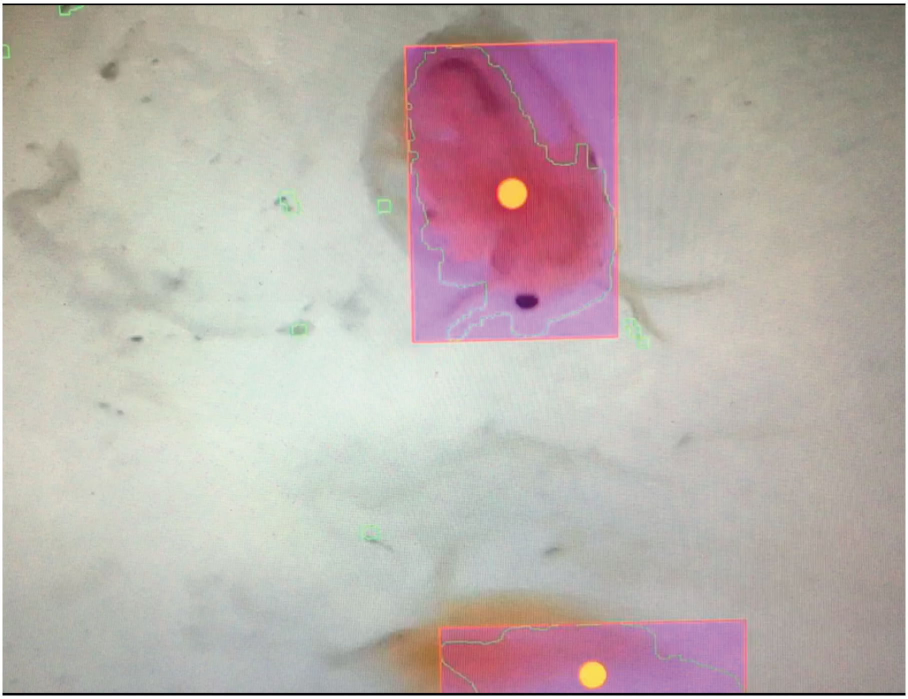


Upcycled Plastic Maze for Microscopic Creatures



At night flying ants were landing into the illuminated petri-dish. Unexpected visitors!

here the USB microscope and some Daphnias (small planktonic crustaceans). The code for the Processing program can be found here: https://github.com/rodolfoacostacastro/USBmicroscope_openCV



WILD LIVES CLASS

ALEX HORNSTEIN,JASMINE GUTBROD, SAYU AMBIHARATHINAM AND GABI MOHANALINGAM

Investigating the secret lives of wild animals around Dreamspace

As part of Dinacon, I put together two classes at Dreamspace about finding, understanding, and telling stories about the lives of wild animals that live right outside the door. These are entry-level classes designed to introduce students to their local ecosystem and give a sampling of tools and techniques for how they can investigate and interact with their neighboring natural world.

I co-taught the classes with a longtime collaborator and fellow Dinasaur, Jasmine Gutbrod, and two volunteers from Dreamspace, Sayu Ambiharathinam and Gabi Mohanalingam. One class was an adult class, for

Dreamspace members who were interested, and the other was a class for gradeschool-aged children from a nearby orphanage. Both classes had about twenty students and met for about an hour each day, for six days. We also ran a 3-day intensive workshop for Dinacon participants that was a condensed version of the class, as a prototype for how to train teachers to run classes like this with their own students.

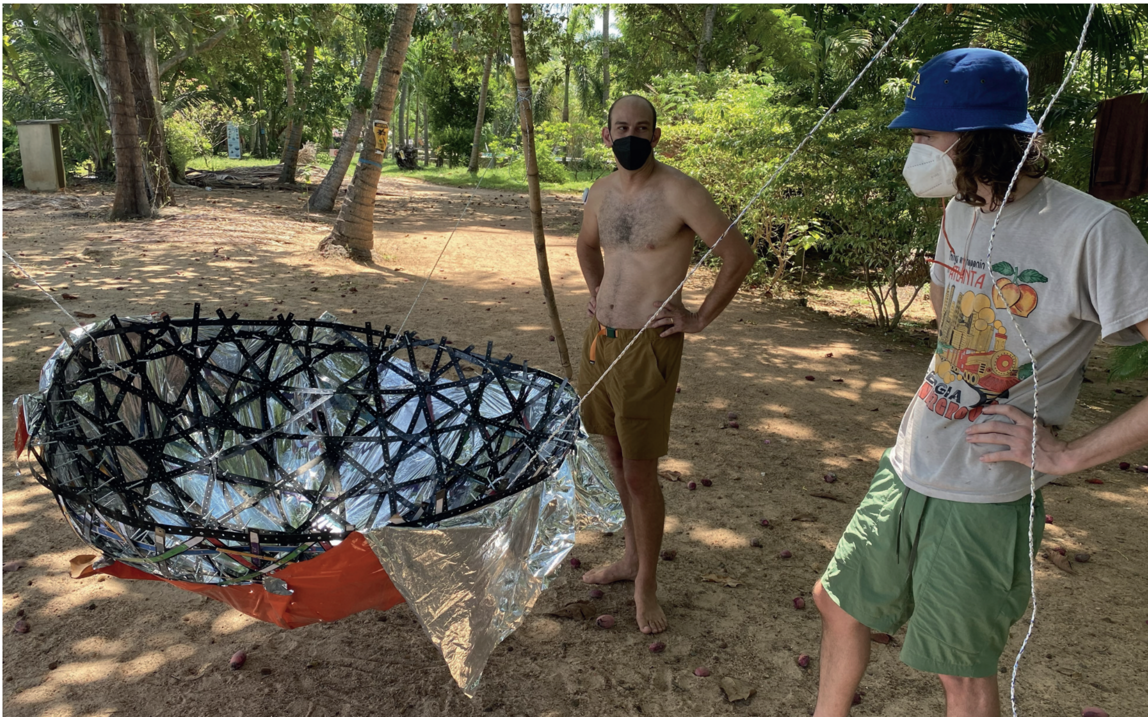
The big idea behind these classes is that, wherever you may live in the world and whatever animals live near you, you can use the same process to find animals and follow stories about their lives. That process begins with going outside, looking around and asking yourself a simple question: if I were a wild animal, where would I go when humans aren't around? The answer is different, of course, for different species, environments, seasons, and hundreds of other variables, but the way you figure it out is always the same: by empathetically watching the world around you.

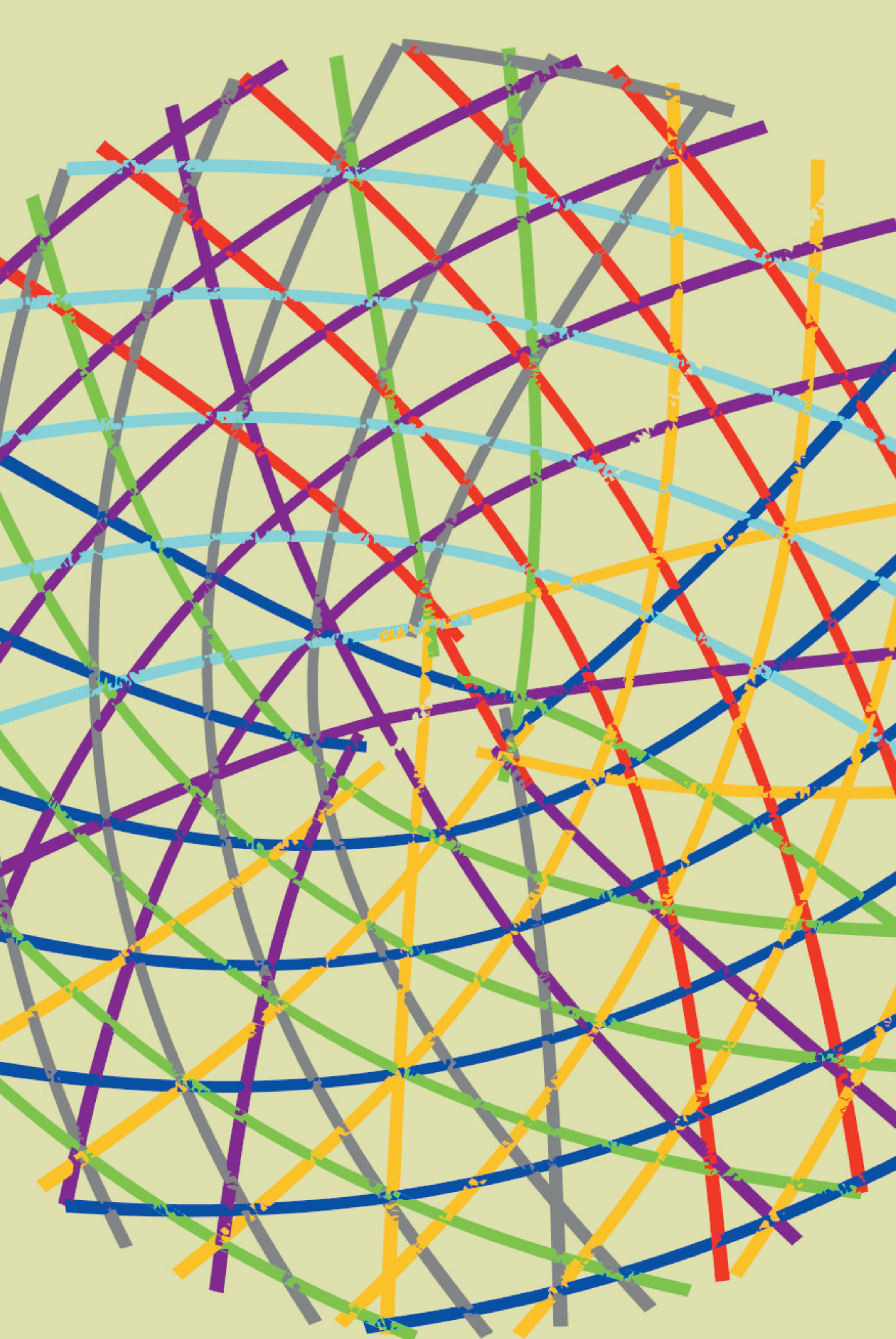
Batticaloa, Sri Lanka 2022

WOVEN SOLAR CONCENTRATOR

WILLIAM KENNEDY JOSH VEKHTER *ALEX HORNSTEIN*

They designed a way to weave a solar oven.





ROWOLFO & BRAMBUTAN

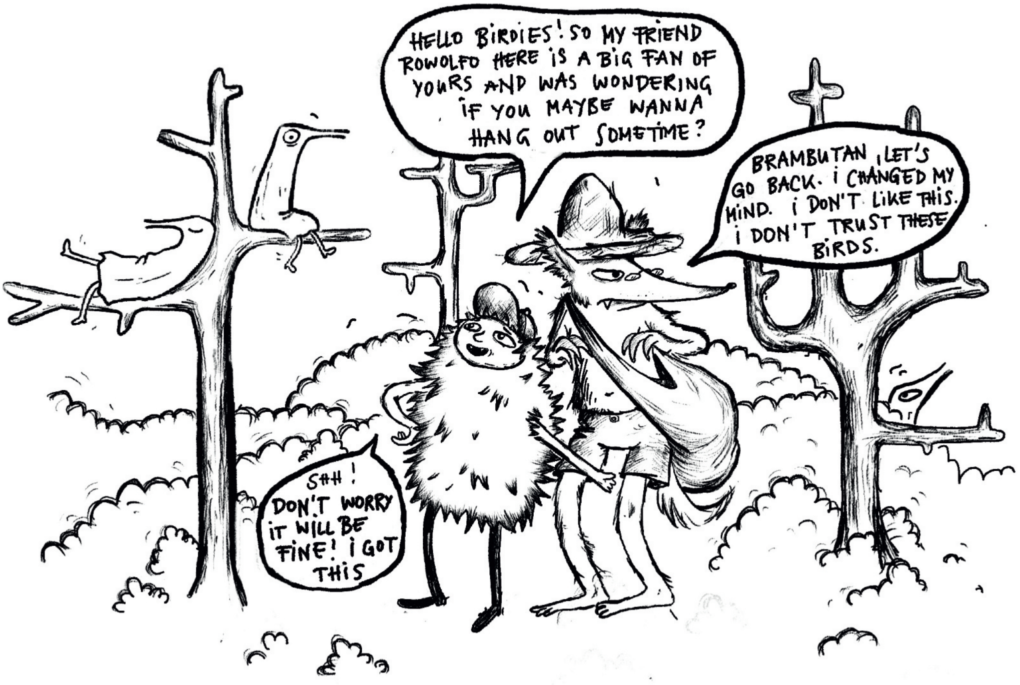
LEONIE BRAMBERGER

Over two weeks of Dinacon resulted in a lot of sketches and abstracts for some comic strips about the adventures of Rowolfo and Brambutan (two completely fictional characters).

Two short adventures actually made it into existence.

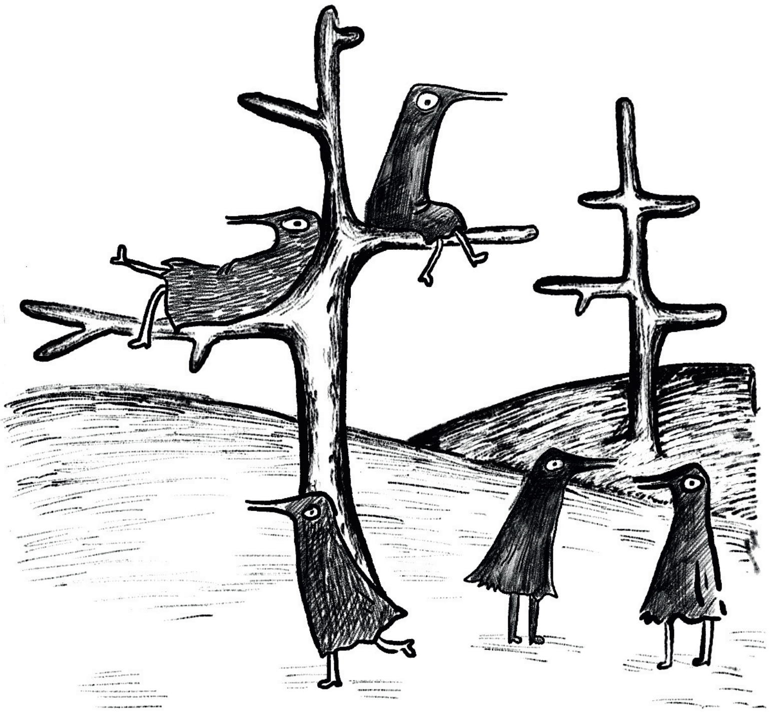
One about daily encounters with a bunch of very mean crows.

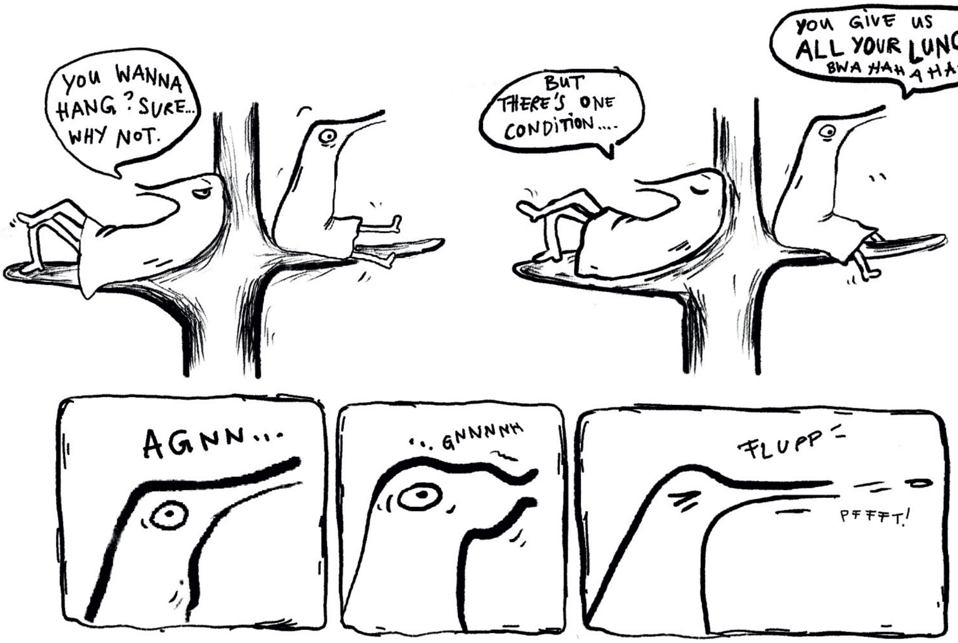
The second one capturing a magical bike ride at night, where Brambutan and Rowolfo see bioluminescence for the first time.


HELLO BIRDIES! SO MY FRIEND ROWOLFO HERE IS A BIG FAN OF YOURS AND WAS WONDERING IF YOU MAYBE WANNA HANG OUT SOMETIME?
BRAMBUTAN, LET'S GO BACK. I CHANGED MY MIND. I DON'T LIKE THIS. I DON'T TRUST THESE BIRDS.
SHH! DON'T WORRY IT WILL BE FINE! I GOT THIS

Rowolfo & Brambutan

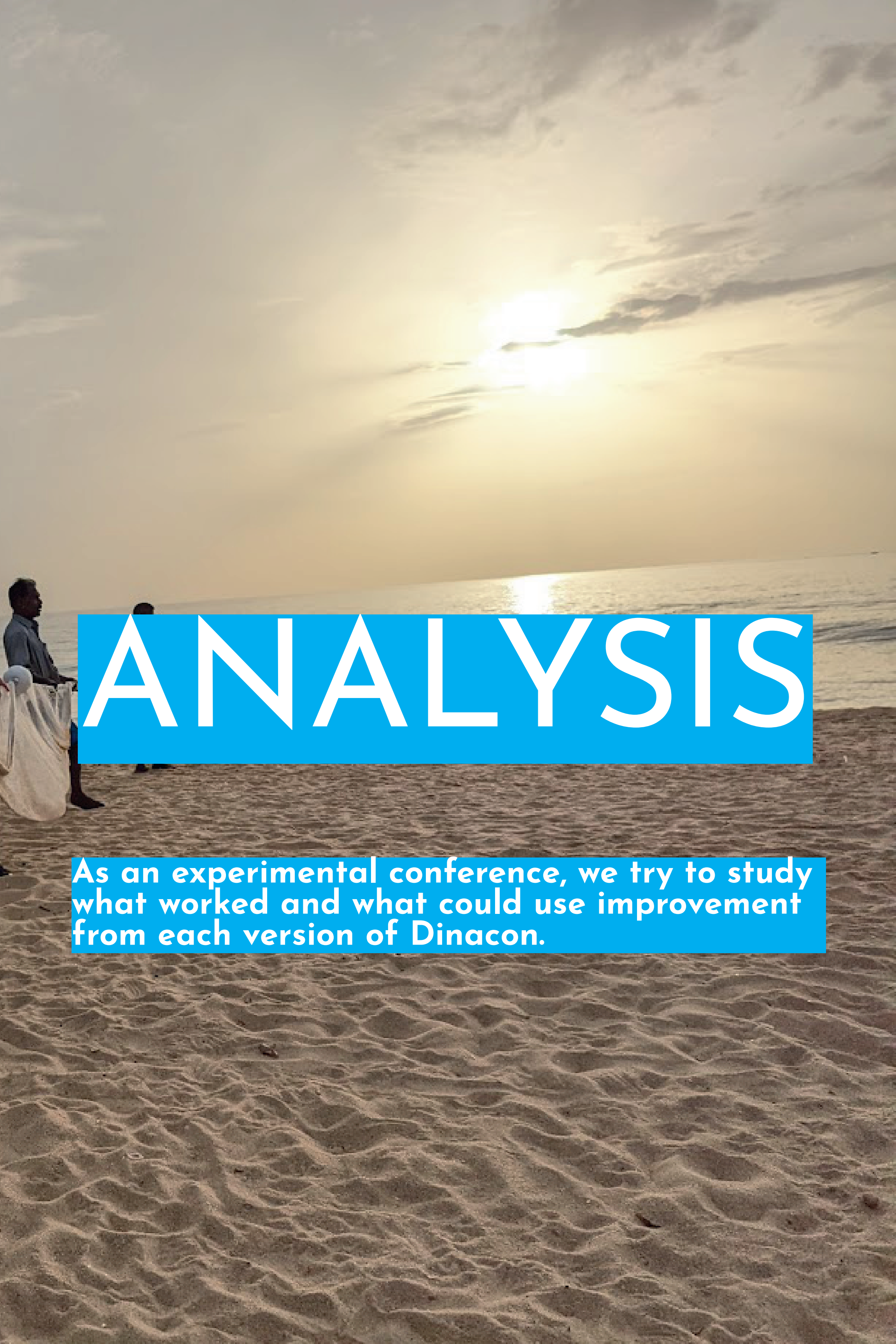
CROWS




YOU WANNA HANG? SURE... WHY NOT.
BUT THERE'S ONE CONDITION....
YOU GIVE US ALL YOUR LUNCH! BWA HAH A HAHA
AGNN...
.. GNNNNH
FLUPP
PFFFT!

TEAM FISHING

Dinasaurs jumped in to help a group of fisherfolk hauling in a morning's catch



ANALYSIS

As an experimental conference, we try to study what worked and what could use improvement from each version of Dinacon.

DINACON DATA

Dinacon participants and committee

This data was collected from our participants in the form of surveys they filled out before and after their experience at Dinacon.

It is compiled here to hold as a record of the impact of past conferences, chart the development of this experimental event, and hopefully to serve as a guide for future conferences.

DEMOGRAPHICS

100 applicants from 25 different countries

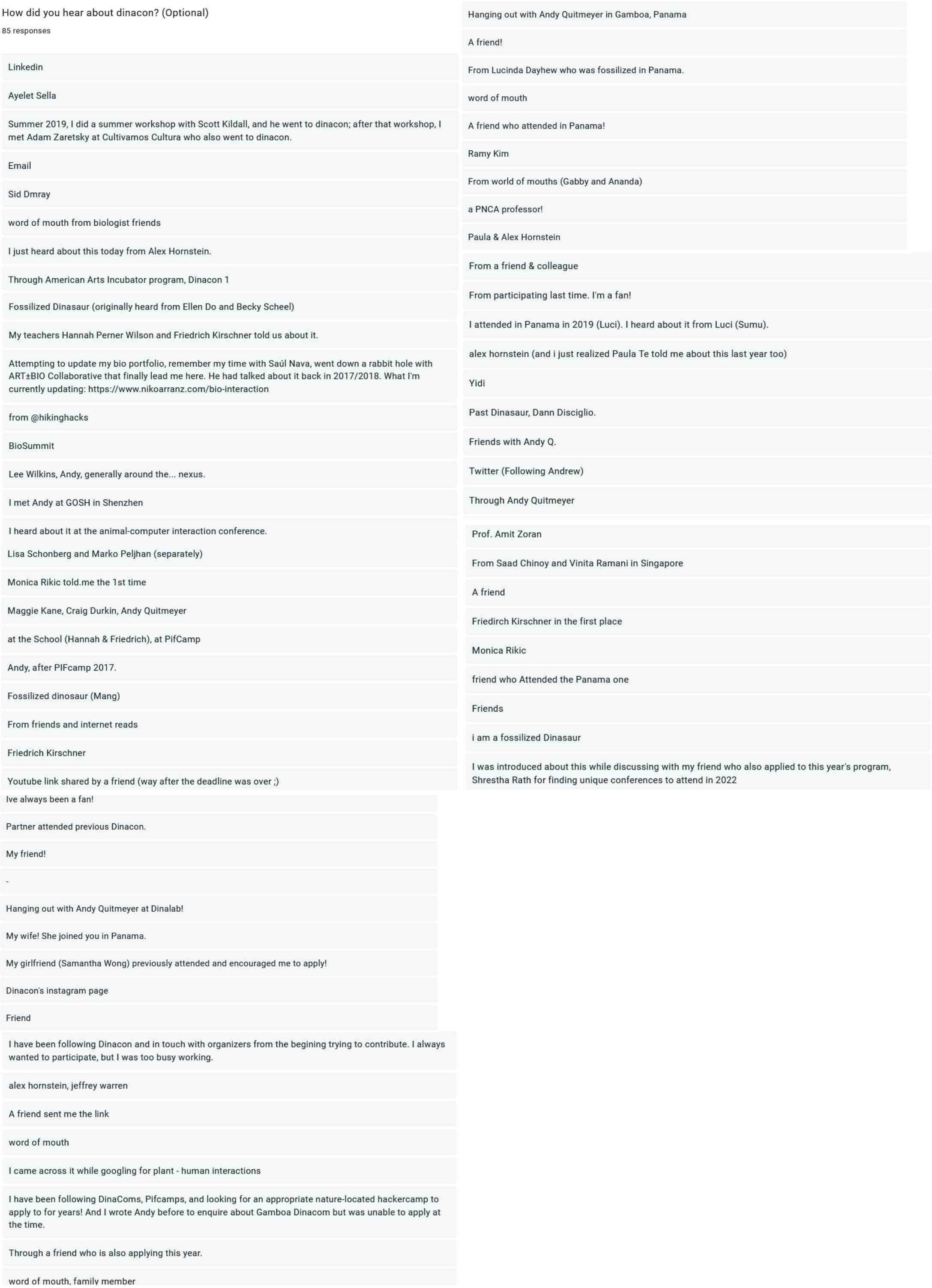
Gender Identification Breakdown
31 Cis Woman
29 Cis Man
20 Other gender identity
20 Prefer not to answer

74 Participants (46 foreigners).

20% identifying as biologists, 40% as artists, 25% as technologists, and 15% as other.

Their average stay was 12 days.

70% had been to a previous Dinacon.



How did you hear about dinacon? (Optional)

85 responses

Linkedin

Ayelet Sella

Summer 2019, I did a summer workshop with Scott Kildall, and he went to dinacon; after that workshop, I met Adam Zaretsky at Cultivamos Cultura who also went to dinacon.

Email

Sid Dmray

word of mouth from biologist friends

I just heard about this today from Alex Hornstein.

Through American Arts Incubator program, Dinacon 1

Fossilized Dinasaur (originally heard from Ellen Do and Becky Scheel)

My teachers Hannah Perner Wilson and Friedrich Kirschner told us about it.

Attempting to update my bio portfolio, remember my time with Saúl Nava, went down a rabbit hole with ART±BIO Collaborative that finally lead me here. He had talked about it back in 2017/2018. What I'm currently updating: https://www.nikoarranz.com/bio-interaction

from @hikinghacks

BioSummit

Lee Wilkins, Andy, generally around the... nexus.

I met Andy at GOSH in Shenzhen

I heard about it at the animal-computer interaction conference.

Lisa Schonberg and Marko Peljhan (separately)

Monica Rikic told.me the 1st time

Maggie Kane, Craig Durkin, Andy Quitmeyer

at the School (Hannah & Friedrich), at PifCamp

Andy, after PIFcamp 2017.

Fossilized dinosaur (Mang)

From friends and internet reads

Friedrich Kirschner

Youtube link shared by a friend (way after the deadline was over ;)

Ive always been a fan!

Partner attended previous Dinacon.

My friend!

-

Hanging out with Andy Quitmeyer at Dinalab!

My wife! She joined you in Panama.

My girlfriend (Samantha Wong) previously attended and encouraged me to apply!

Dinacon's instagram page

Friend

I have been following Dinacon and in touch with organizers from the begining trying to contribute. I always wanted to participate, but I was too busy working.

alex hornstein, jeffrey warren

A friend sent me the link

word of mouth

I came across it while googling for plant - human interactions

I have been following DinaComs, Pifcamps, and looking for an appropriate nature-located hackercamp to apply to for years! And I wrote Andy before to enquire about Gamboa Dinacom but was unable to apply at the time.

Through a friend who is also applying this year.

word of mouth, family member

Hanging out with Andy Quitmeyer in Gamboa, Panama

A friend!

From Lucinda Dayhew who was fossilized in Panama.

word of mouth

A friend who attended in Panama!

Ramy Kim

From world of mouths (Gabby and Ananda)

a PNCA professor!

Paula & Alex Hornstein

From a friend & colleague

From participating last time. I'm a fan!

I attended in Panama in 2019 (Luci). I heard about it from Luci (Sumu).

alex hornstein (and i just realized Paula Te told me about this last year too)

Yidi

Past Dinasaur, Dann Disciglio.

Friends with Andy Q.

Twitter (Following Andrew)

Through Andy Quitmeyer

Prof. Amit Zoran

From Saad Chinoy and Vinita Ramani in Singapore

A friend

Friedirch Kirschner in the first place

Monica Rikic

friend who Attended the Panama one

Friends

i am a fossilized Dinasaur

I was introduced about this while discussing with my friend who also applied to this year's program, Shrestha Rath for finding unique conferences to attend in 2022

MONEY

DINACON'S BUDGET

Money Collected

GOSH grant	$9,670
New York Fine Arts Grant	$3,000
Personal Donations	$11,440
Participant Payments	$26,763

Expenses

Living Expenses (Food and Housing)	$19,543
Travel Expenses (Organizers)	$7,627
Scholarships	$3,000
Dreamspace (Documentation)	$2700
Dreamspace (Logistics)	$9,560
Dreamspace (Tools)	$6,310
Fees	$133

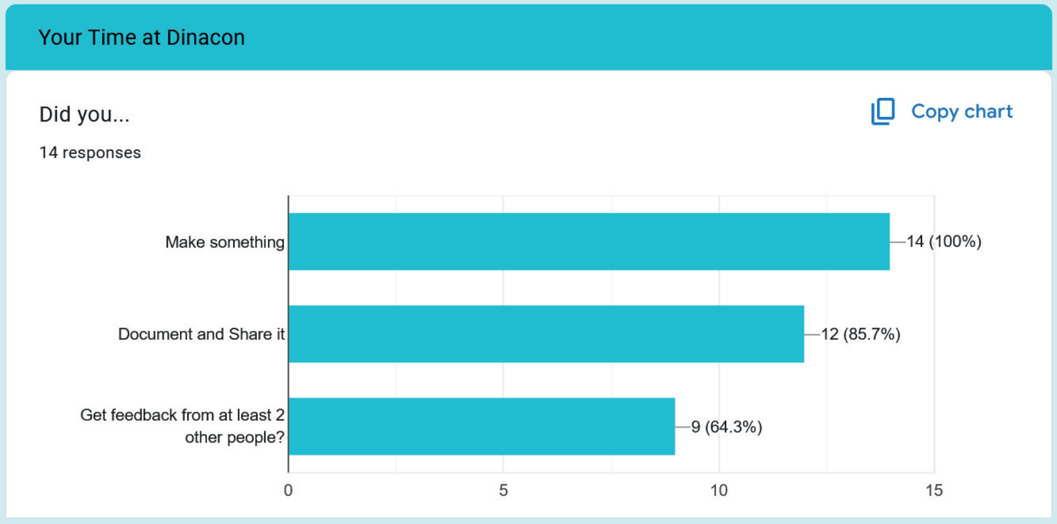
Total Expenses	$48,941 USD
Total Income	$48,873 USD
Net	-$68 USD

ECONOMIC IMPACT

AVERAGE EXPENSES PER FOREIGN PARTICIPANT	$1400USD
AVERAGE EXPENSES PER PARTICIPANT (OUTSIDE OF DINACON)	$565USD
ADDITIONAL DONATED EQUIPMENT VALUATION	$5,580USD
FOREIGN ECONOMIC IMPACT INTO SRI LANKA (INCLUDING DONATED EQUIPMENT AND MONEY SPENT OUTSIDE OF DINACON)	$74,355USD

ACTIVITY

What did they do?

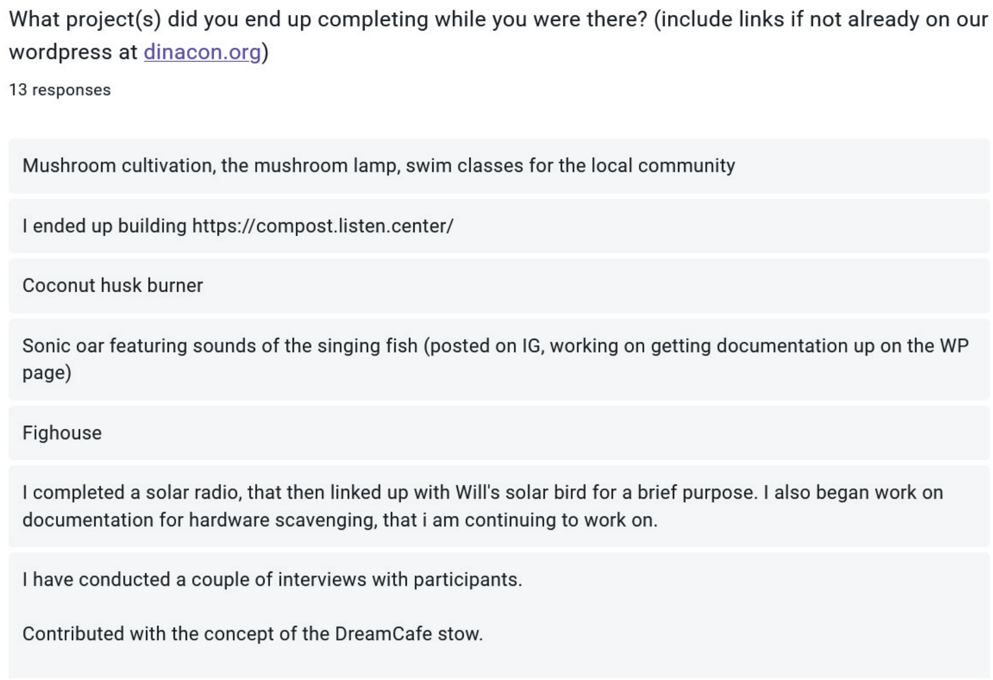


Your Time at Dinacon

Did you...

14 responses

Copy chart
Make something
14 (100%)
Document and Share it
12 (85.7%)
Get feedback from at least 2 other people?
9 (64.3%)
0
5
10
15



What project(s) did you end up completing while you were there? (include links if not already on our wordpress at dinacon.org)

13 responses

Mushroom cultivation, the mushroom lamp, swim classes for the local community

I ended up building https://compost.listen.center/

Coconut husk burner

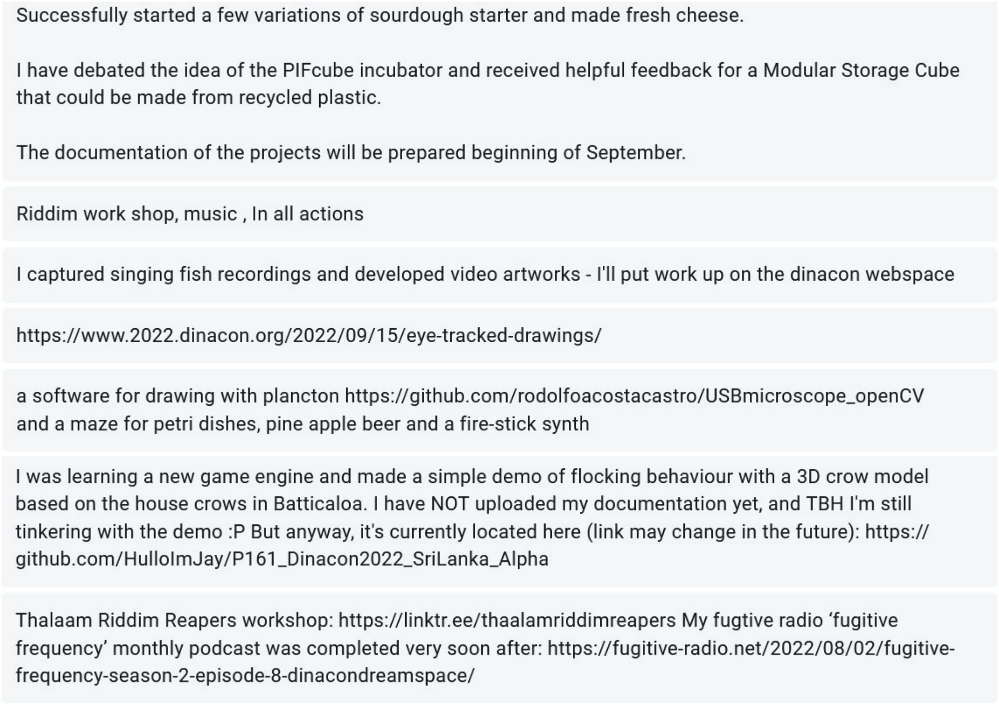
Sonic oar featuring sounds of the singing fish (posted on IG, working on getting documentation up on the WP page)

Fighouse

I completed a solar radio, that then linked up with Will's solar bird for a brief purpose. I also began work on documentation for hardware scavenging, that i am continuing to work on.

I have conducted a couple of interviews with participants.

Contributed with the concept of the DreamCafe stow.



Successfully started a few variations of sourdough starter and made fresh cheese.

I have debated the idea of the PIFcube incubator and received helpful feedback for a Modular Storage Cube that could be made from recycled plastic.

The documentation of the projects will be prepared beginning of September.

Riddim work shop, music , In all actions

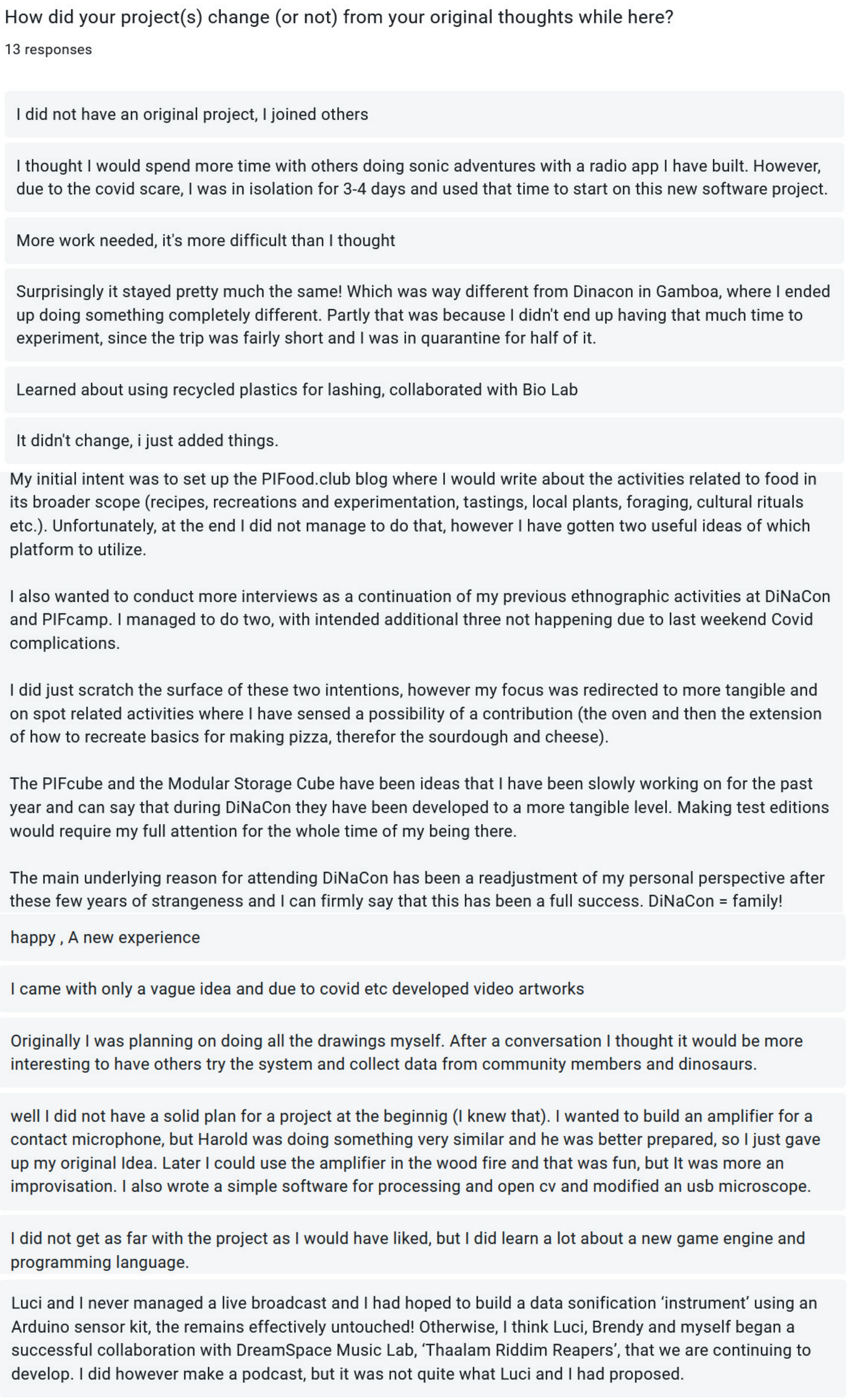
I captured singing fish recordings and developed video artworks - I'll put work up on the dinacon webspace

https://www.2022.dinacon.org/2022/09/15/eye-tracked-drawings/

a software for drawing with plancton https://github.com/rodolfoacostacastro/USBmicroscope_openCV and a maze for petri dishes, pine apple beer and a fire-stick synth

I was learning a new game engine and made a simple demo of flocking behaviour with a 3D crow model based on the house crows in Batticaloa. I have NOT uploaded my documentation yet, and TBH I'm still tinkering with the demo :P But anyway, it's currently located here (link may change in the future): https://github.com/HulloImJay/P161_Dinacon2022_SriLanka_Alpha

Thalaam Riddim Reapers workshop: https://linktr.ee/thaalamriddimreapers My fugtive radio ‘fugitive frequency’ monthly podcast was completed very soon after: https://fugitive-radio.net/2022/08/02/fugitive-frequency-season-2-episode-8-dinacondreamspace/



How did your project(s) change (or not) from your original thoughts while here?

13 responses

I did not have an original project, I joined others

I thought I would spend more time with others doing sonic adventures with a radio app I have built. However, due to the covid scare, I was in isolation for 3-4 days and used that time to start on this new software project.

More work needed, it's more difficult than I thought

Surprisingly it stayed pretty much the same! Which was way different from Dinacon in Gamboa, where I ended up doing something completely different. Partly that was because I didn't end up having that much time to experiment, since the trip was fairly short and I was in quarantine for half of it.

Learned about using recycled plastics for lashing, collaborated with Bio Lab

It didn't change, i just added things.

My initial intent was to set up the PIFood.club blog where I would write about the activities related to food in its broader scope (recipes, recreations and experimentation, tastings, local plants, foraging, cultural rituals etc.). Unfortunately, at the end I did not manage to do that, however I have gotten two useful ideas of which platform to utilize.

I also wanted to conduct more interviews as a continuation of my previous ethnographic activities at DiNaCon and PIFcamp. I managed to do two, with intended additional three not happening due to last weekend Covid complications.

I did just scratch the surface of these two intentions, however my focus was redirected to more tangible and on spot related activities where I have sensed a possibility of a contribution (the oven and then the extension of how to recreate basics for making pizza, therefor the sourdough and cheese).

The PIFcube and the Modular Storage Cube have been ideas that I have been slowly working on for the past year and can say that during DiNaCon they have been developed to a more tangible level. Making test editions would require my full attention for the whole time of my being there.

The main underlying reason for attending DiNaCon has been a readjustment of my personal perspective after these few years of strangeness and I can firmly say that this has been a full success. DiNaCon = family!

happy , A new experience

I came with only a vague idea and due to covid etc developed video artworks

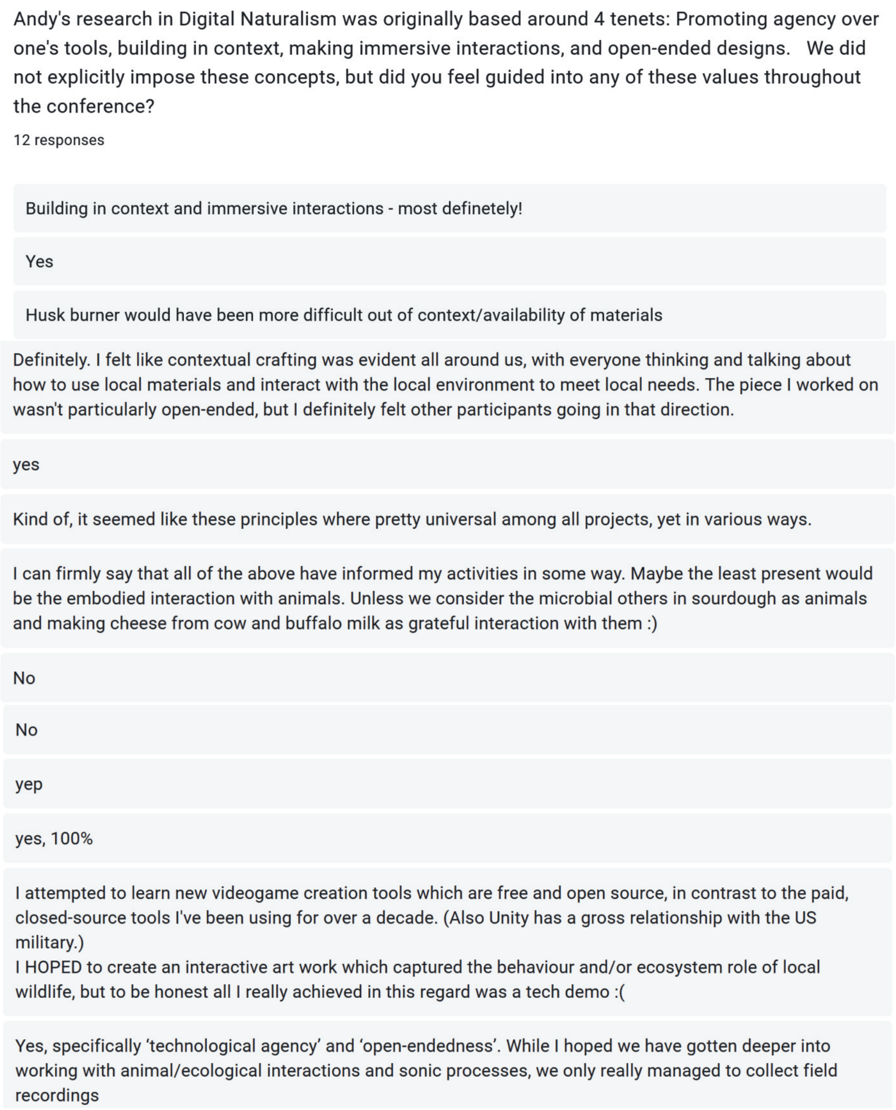
Originally I was planning on doing all the drawings myself. After a conversation I thought it would be more interesting to have others try the system and collect data from community members and dinosaurs.

well I did not have a solid plan for a project at the beginnig (I knew that). I wanted to build an amplifier for a contact microphone, but Harold was doing something very similar and he was better prepared, so I just gave up my original Idea. Later I could use the amplifier in the wood fire and that was fun, but It was more an improvisation. I also wrote a simple software for processing and open cv and modified an usb microscope.

I did not get as far with the project as I would have liked, but I did learn a lot about a new game engine and programming language.

Luci and I never managed a live broadcast and I had hoped to build a data sonification 'instrument' using an Arduino sensor kit, the remains effectively untouched! Otherwise, I think Luci, Brendy and myself began a successful collaboration with DreamSpace Music Lab, 'Thaalam Riddim Reapers', that we are continuing to develop. I did however make a podcast, but it was not quite what Luci and I had proposed.

DIGITAL NATURALISM



Andy's research in Digital Naturalism was originally based around 4 tenets: Promoting agency over one's tools, building in context, making immersive interactions, and open-ended designs. We did not explicitly impose these concepts, but did you feel guided into any of these values throughout the conference?

12 responses

Building in context and immersive interactions - most definetely!

Yes

Husk burner would have been more difficult out of context/availability of materials

Definitely. I felt like contextual crafting was evident all around us, with everyone thinking and talking about how to use local materials and interact with the local environment to meet local needs. The piece I worked on wasn't particularly open-ended, but I definitely felt other participants going in that direction.

yes

Kind of, it seemed like these principles where pretty universal among all projects, yet in various ways.

I can firmly say that all of the above have informed my activities in some way. Maybe the least present would be the embodied interaction with animals. Unless we consider the microbial others in sourdough as animals and making cheese from cow and buffalo milk as grateful interaction with them :)

No

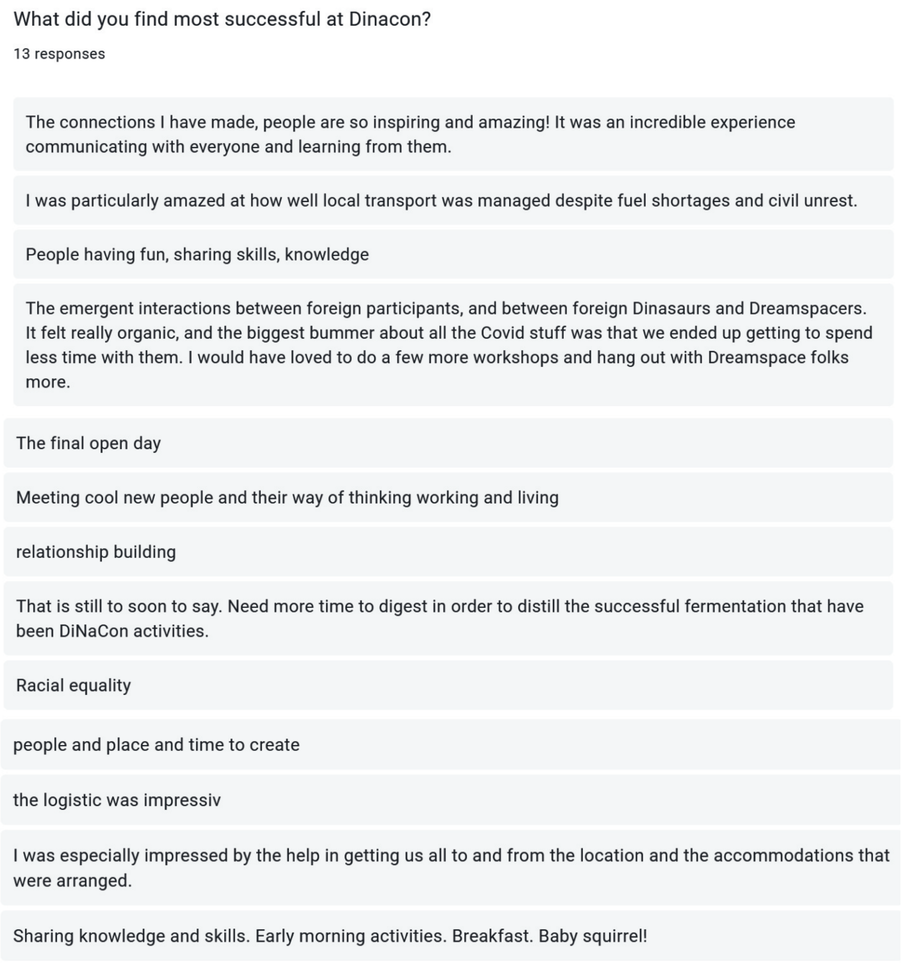
No

yep

yes, 100%

I attempted to learn new videogame creation tools which are free and open source, in contrast to the paid, closed-source tools I've been using for over a decade. (Also Unity has a gross relationship with the US military.)
I HOPED to create an interactive art work which captured the behaviour and/or ecosystem role of local wildlife, but to be honest all I really achieved in this regard was a tech demo :(

Yes, specifically 'technological agency' and 'open-endedness'. While I hoped we have gotten deeper into working with animal/ecological interactions and sonic processes, we only really managed to collect field recordings



What did you find most successful at Dinacon?

13 responses

The connections I have made, people are so inspiring and amazing! It was an incredible experience communicating with everyone and learning from them.

I was particularly amazed at how well local transport was managed despite fuel shortages and civil unrest.

People having fun, sharing skills, knowledge

The emergent interactions between foreign participants, and between foreign Dinasaurs and Dreamspacers. It felt really organic, and the biggest bummer about all the Covid stuff was that we ended up getting to spend less time with them. I would have loved to do a few more workshops and hang out with Dreamspace folks more.

The final open day

Meeting cool new people and their way of thinking working and living

relationship building

That is still to soon to say. Need more time to digest in order to distill the successful fermentation that have been DiNaCon activities.

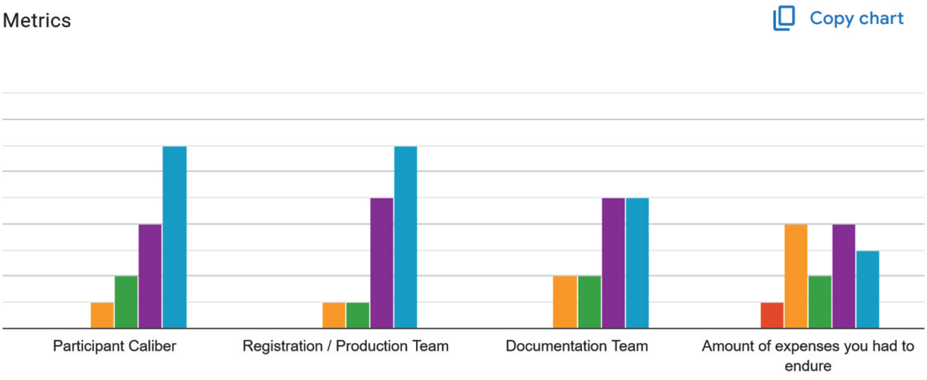
Racial equality

people and place and time to create

the logistic was impressiv

I was especially impressed by the help in getting us all to and from the location and the accommodations that were arranged.

Sharing knowledge and skills. Early morning activities. Breakfast. Baby squirrel!

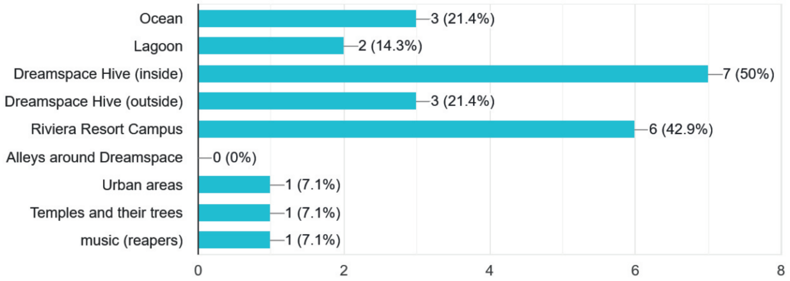


Ecosystems

Which ecosystem did you spend most time working in?

Copy chart

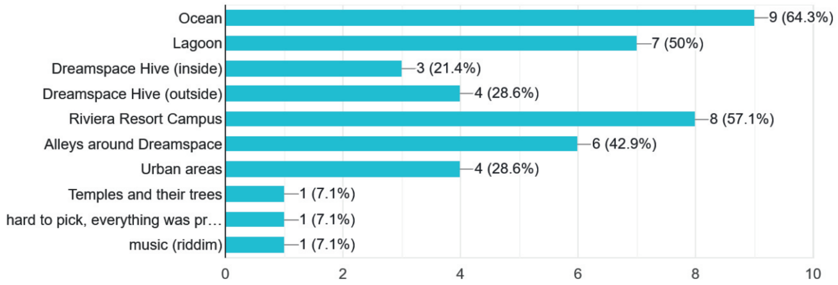
14 responses



Which ecosystem did you find most inspiring

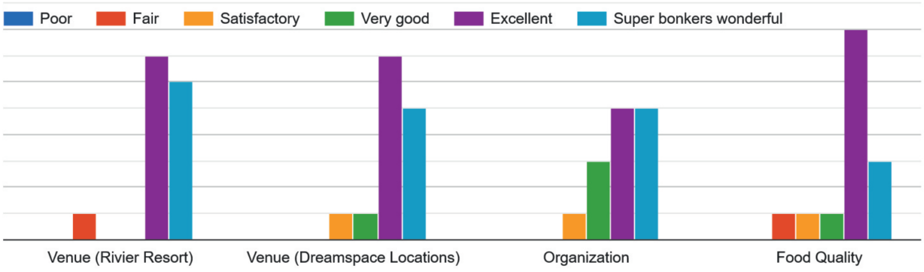
Copy chart

14 responses

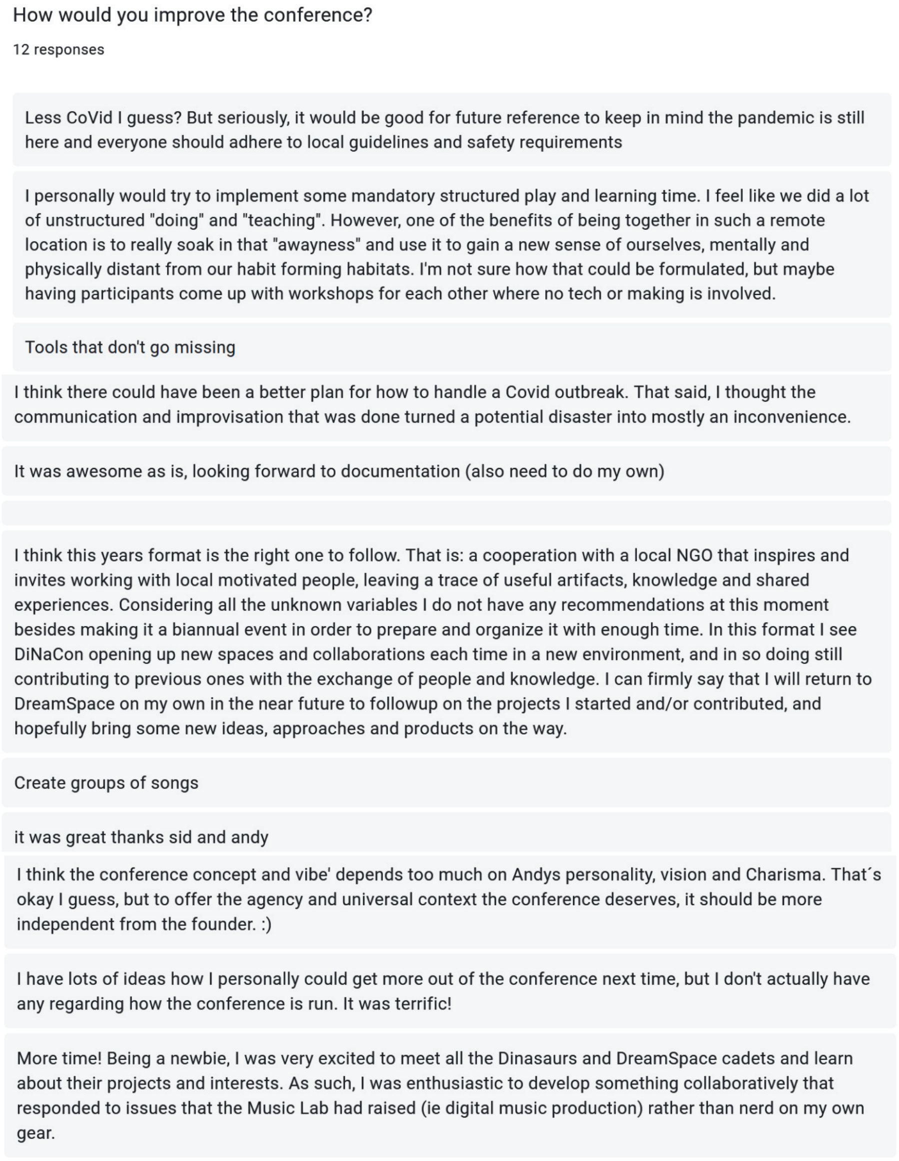


Metrics

Copy chart



SUGGESTIONS



How would you improve the conference?

12 responses

Less CoVid I guess? But seriously, it would be good for future reference to keep in mind the pandemic is still here and everyone should adhere to local guidelines and safety requirements

I personally would try to implement some mandatory structured play and learning time. I feel like we did a lot of unstructured "doing" and "teaching". However, one of the benefits of being together in such a remote location is to really soak in that "awayness" and use it to gain a new sense of ourselves, mentally and physically distant from our habit forming habitats. I'm not sure how that could be formulated, but maybe having participants come up with workshops for each other where no tech or making is involved.

Tools that don't go missing

I think there could have been a better plan for how to handle a Covid outbreak. That said, I thought the communication and improvisation that was done turned a potential disaster into mostly an inconvenience.

It was awesome as is, looking forward to documentation (also need to do my own)

I think this years format is the right one to follow. That is: a cooperation with a local NGO that inspires and invites working with local motivated people, leaving a trace of useful artifacts, knowledge and shared experiences. Considering all the unknown variables I do not have any recommendations at this moment besides making it a biannual event in order to prepare and organize it with enough time. In this format I see DiNaCon opening up new spaces and collaborations each time in a new environment, and in so doing still contributing to previous ones with the exchange of people and knowledge. I can firmly say that I will return to DreamSpace on my own in the near future to followup on the projects I started and/or contributed, and hopefully bring some new ideas, approaches and products on the way.

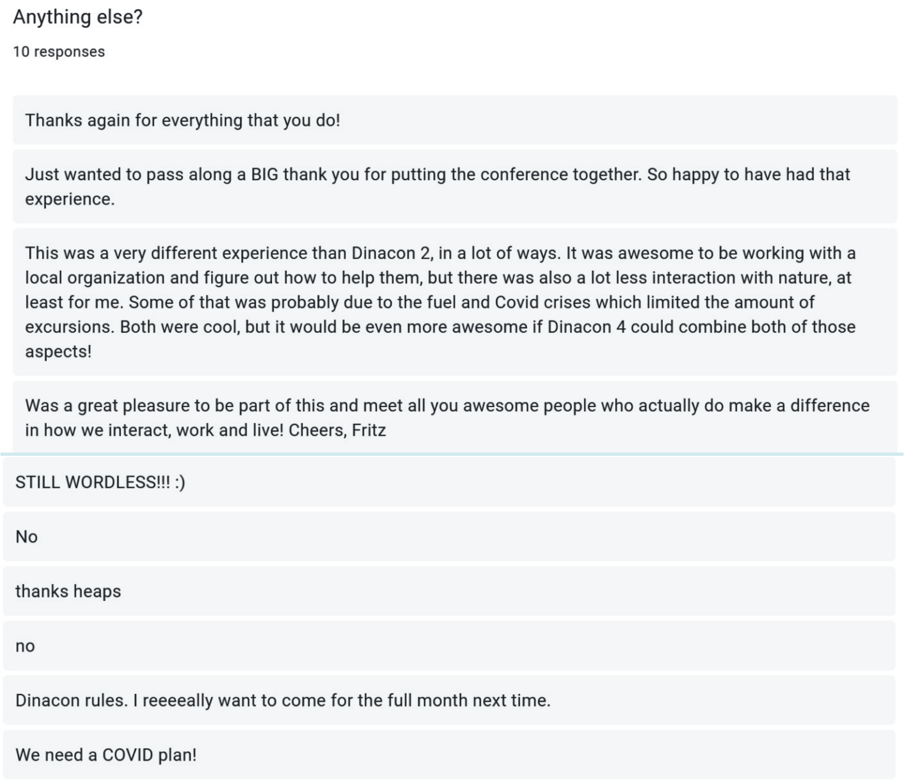
Create groups of songs

it was great thanks sid and andy

I think the conference concept and vibe' depends too much on Andys personality, vision and Charisma. That´s okay I guess, but to offer the agency and universal context the conference deserves, it should be more independent from the founder. :)

I have lots of ideas how I personally could get more out of the conference next time, but I don't actually have any regarding how the conference is run. It was terrific!

More time! Being a newbie, I was very excited to meet all the Dinasaurs and DreamSpace cadets and learn about their projects and interests. As such, I was enthusiastic to develop something collaboratively that responded to issues that the Music Lab had raised (ie digital music production) rather than nerd on my own gear.



Anything else?

10 responses

Thanks again for everything that you do!

Just wanted to pass along a BIG thank you for putting the conference together. So happy to have had that experience.

This was a very different experience than Dinacon 2, in a lot of ways. It was awesome to be working with a local organization and figure out how to help them, but there was also a lot less interaction with nature, at least for me. Some of that was probably due to the fuel and Covid crises which limited the amount of excursions. Both were cool, but it would be even more awesome if Dinacon 4 could combine both of those aspects!

Was a great pleasure to be part of this and meet all you awesome people who actually do make a difference in how we interact, work and live! Cheers, Fritz

STILL WORDLESS!!! :)

No

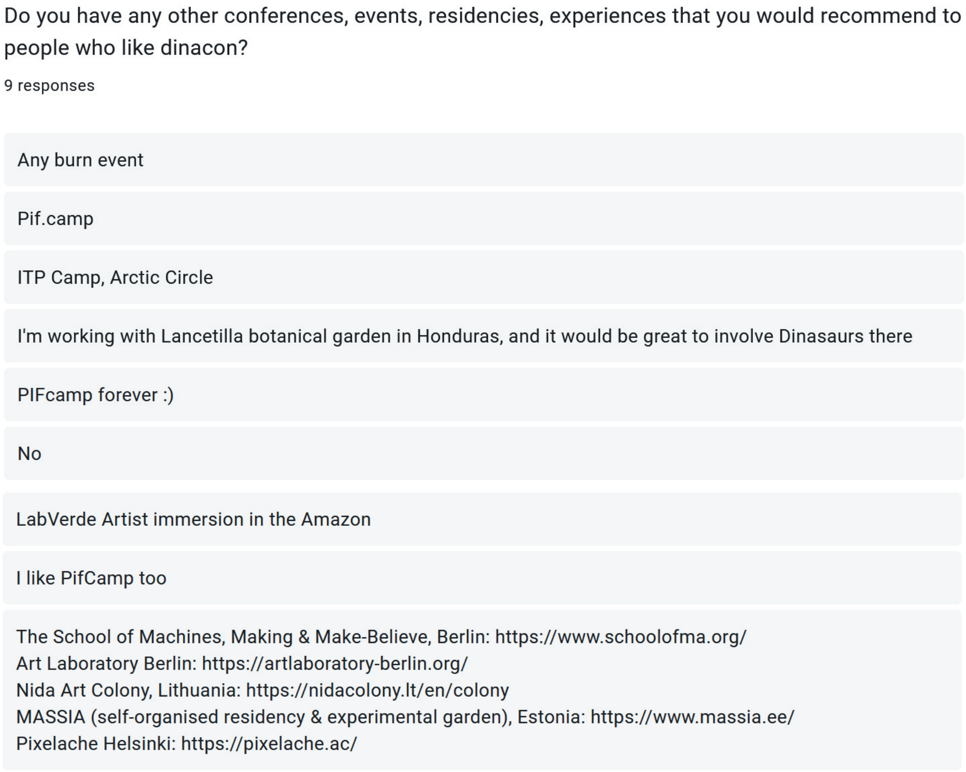
thanks heaps

no

Dinacon rules. I reeeeally want to come for the full month next time.

We need a COVID plan!

OTHER CONFERENCES



Do you have any other conferences, events, residencies, experiences that you would recommend to people who like dinacon?

9 responses

Any burn event

Pif.camp

ITP Camp, Arctic Circle

I'm working with Lancetilla botanical garden in Honduras, and it would be great to involve Dinasaurs there

PIFcamp forever :)

No

LabVerde Artist immersion in the Amazon

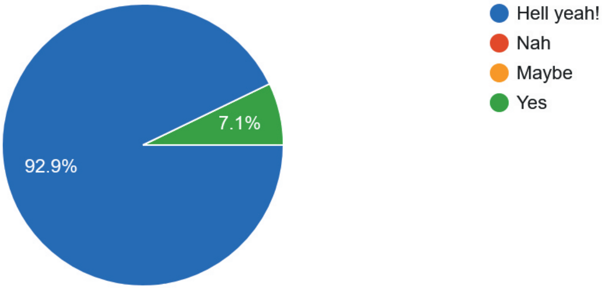
I like PifCamp too

The School of Machines, Making & Make-Believe, Berlin: https://www.schoolofma.org/
Art Laboratory Berlin: https://artlaboratory-berlin.org/
Nida Art Colony, Lithuania: https://nidacolony.lt/en/colony
MASSIA (self-organised residency & experimental garden), Estonia: https://www.massia.ee/
Pixelache Helsinki: https://pixelache.ac/

The Future

Are you interested in Dinacon 2024/2025?

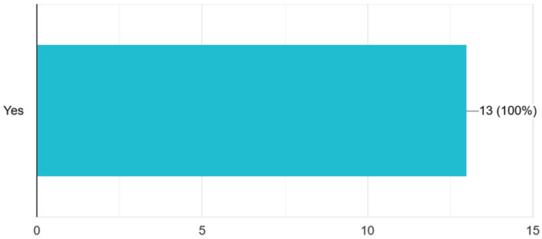
14 responses



Would you volunteer as staff at a future Dinacon?

Copy chart

13 responses



Where in the world would you like to see future dinacons held?

12 responses

How about eastern Europe?

Mexico, Colombia, ...Colorado :)

N America would be convenient for me... but I know there is already a US bias, so I'm willing to travel to cool locations for Dinacons.

Exploring different climate zones, other than tropics could be interesting

Zambia

temperate would be cool...

I places where we could contribute the most. Not Europe or North America.

No matter where it takes place

southern hemisphere

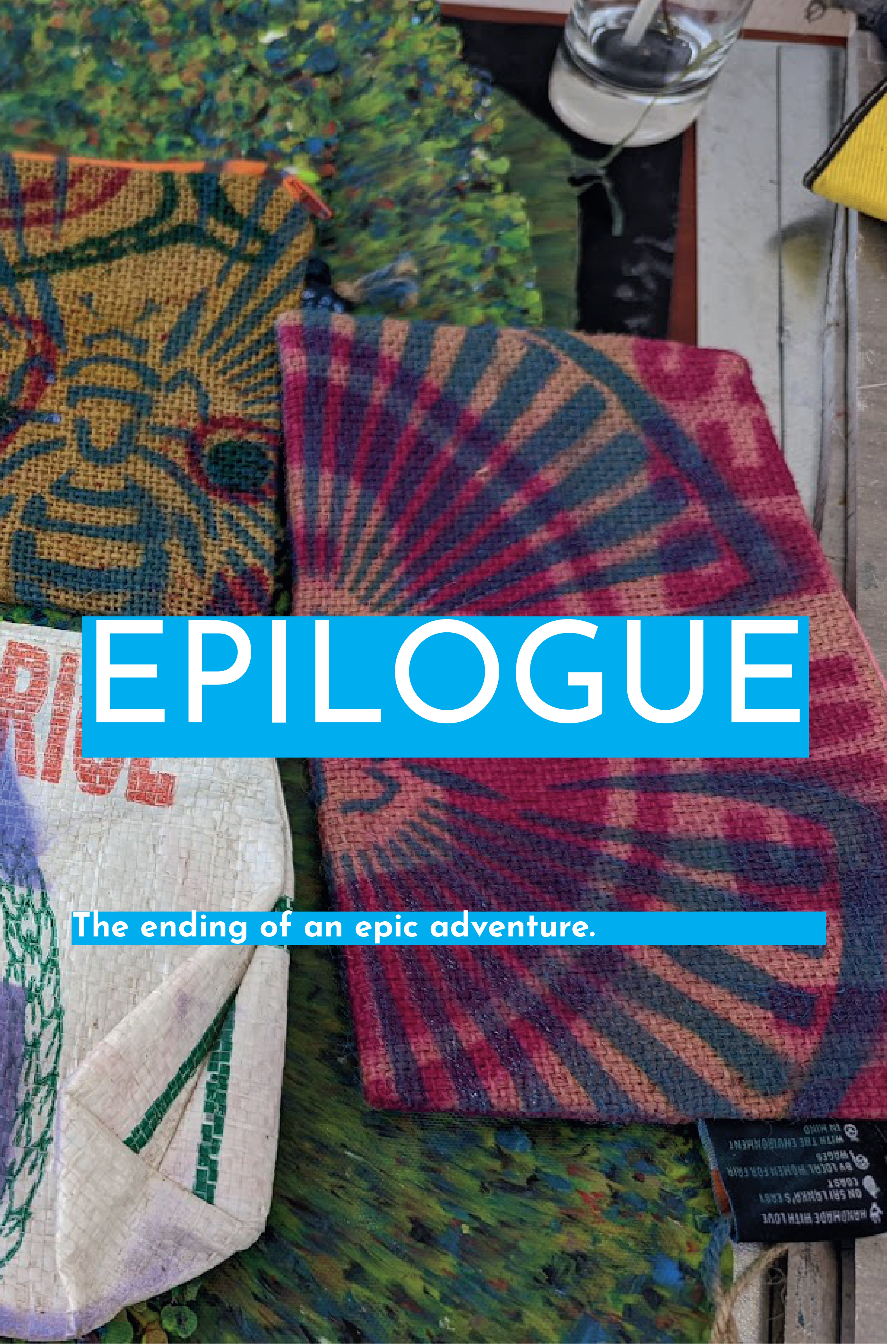
Atlanta

I've never been anywhere in Africa...

Sabah, East Malaysia. Africa.

WHITE RAW
rice

PUNK CUSTOMIZATION
We taught each other how to quickly customize the world around us with lessons learned from our environment..



EPILOGUE

The ending of an epic adventure.

DINACON 2022

ANDY QUITMEYER

This third Dinacon was the hardest thing many of us had ever done.

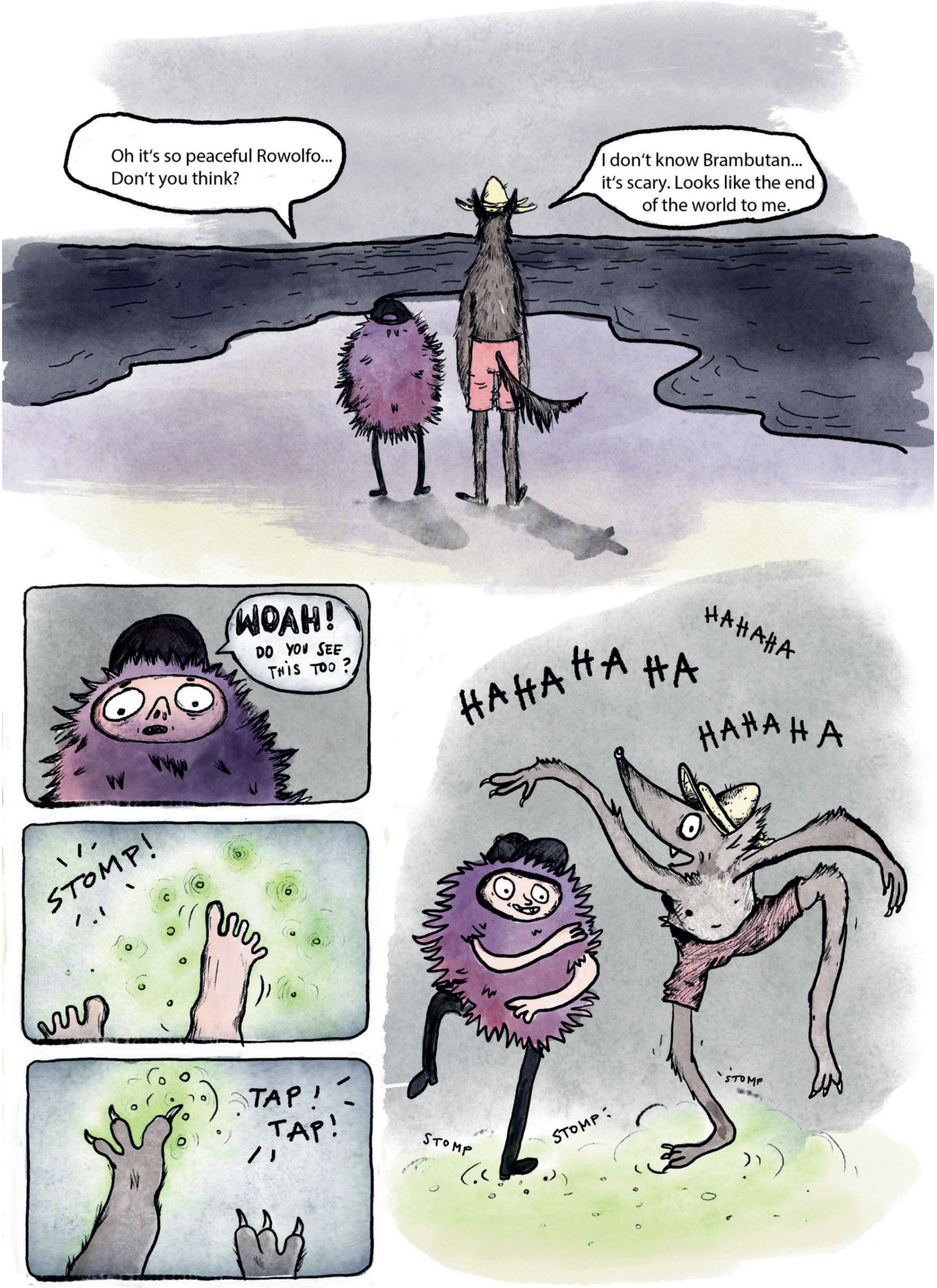
There was a point, after a covid outbreak, in between reports of food scarcity, while we sent foreigners out to share their fuel rations with the locals, when the president of the country flew away, and protestors set up a BBQ pool party in the Sri Lankan White House, where the foreigners started to freak out.

"Do we need to leave? Do we need to flee?" were common anxious questions emanating from us against the relaxed Sri Lankan backdrop. "Oh this? This is fine." Kishoth told me with his large, warm smile. "Also please don't go, there is so much you all can help us with by being here."

Being able to face deep uncertainty and chaos with a smile like this is an admirable quality. It is the ability to let go of the future, and focus on things you can do to help right now. It was a real gift the Sri Lankans gave to us at this event.

Shortly after this, to relieve some stress, me and Leonie and Rodolpho went on a midnight bike ride to the end of the penninsula. As you walked out, all land fell away to the dark abyss of the ocean. Suddenly though, we noticed our footsteps were glowing.

Leonie captured this moment, and these feelings, perfectly with her comic I would like to leave you with:


Oh it's so peaceful Rowolfo... Don't you think?
I don't know Brambutan... it's scary. Looks like the end of the world to me.
WOAH! DO YOU SEE THIS TOO?
STOMP!
TAP! TAP!
HAHAHA HA HA
HAHAHA
HAHAHA
STOMP
STOMP
STOMP

SUPPORT

DINACON is sponsored by the Regional Development Grant of GOSH (https://openhardware.science), Digital Naturalism Laboratories (dinalab.net) in Panama, Dreamspace Academy (dreamspace.academy), Wandrer app (https://wandrer.earth), and New York Foundation for the Arts.

Additional funding has been generously provided by and hackaday (hackaday.com) and many other individuals and small organizations to which we are incredibly grateful!

Join us for the next conference at

www.dinacon.org